

A LIST OF VENEZUELA CHIGGERS, PARTICULARLY OF SMALL MAMMALIAN HOSTS (ACARINA: TROMBICULIDAE)

by

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ABSTRACT

Detailed or summarized records of 136 species in 38 genera with a key to the latter are provided. Of 86 described forms, 49 are new

for Venezuela; the remaining undescribed taxa are coded for purposes of this report. A classified host-parasite list is appended.

INTRODUCTION

This report derives from a large project, "Ecology and Distribution of Mammalian Ectoparasites, Arboviruses, and their Hosts in Venezuela," supported by a U.S. Army Medical Research and Development Command contract (DA-49-193-MD-2785) with the Smithsonian Institution, directed by Dr. Charles O. Handley, Jr., Smithsonian Institution, and Lt. Col. Vernon J. Tipton, U.S. Army (retired), now Brigham Young University. Collections were made between July 1965 and August 1968.

Specifically, it is based upon an examination of some 20,000 slides and subsequent identification of 130 species of chiggers in 38 genera in Venezuela. Although a synoptic key to genera is provided and an occasional taxonomic comment offered, this is not intended to be a searching, systematic study, but rather an inventory of species, together with pertinent collecting data and abbreviated distributional records outside of Venezuela.

Although many trombiculid species were found, they represent only a fraction of the forms believed to be present. For the most part, chiggers were obtained by a method commonly used for larger ectoparasites—e.g., combing the pelage of freshly killed hosts. The enormous number of mammals to be inspected and the time involved in their preparation unfortunately precluded thorough and intensive examination for larvae occupying intradermal and intranasal niches, as well as other more or less cryptic habitats. Some species are very common and

abundant. *Eutrombicula goeldii*, for example, was identified from 4,000 larvae in 600 collections of 60 host species taken from sea level to nearly 3,500 meters in 20 major political divisions. In such cases, collecting data are condensed to a list of host species with generalized locality and seasonal information.

An asterisk immediately preceding a specific name indicates that the species recorded is new to Venezuela fauna. Undescribed species are coded. Descriptions of some of these are in press or in manuscript; others will be described as appropriate. The generic status of 9 species remains to be clarified. These have been recorded in their original genera *sensu lato* and appear at the end of the report. The generic key does not obtain for them.

Involved in the collecting of some 40,000 vertebrates, mostly mammals, and their ectoparasites were N. E. Peterson, M. D. Tuttle, A. L. Tuttle, D. B. Peacock, R. B. Peacock, F. L. Harder, J. O. Matson, F. Brown, and their assistants. Dr. Handley identified the mammalian hosts.

We are most grateful to many persons for assistance in composing this list. Particularly, we thank Alma D. Smith and Bobbi Ann Rockford for the sometimes arduous and oftentimes tedious work of accessioning collected material, preparing and labeling slides, and aiding in summarizing data, and Helen S. Donovan for typing the manuscript. Special thanks are tendered Drs. Tipton and Handley for their enabling role in this project.

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Key to the Venezuela Genera

1. Leg segmentation 6-6-6, scutum with 6 setae (Leeuwenhoekinae) 2
 Leg segmentation 7-7-7 or 7-6-6; 3, 4, 5 or 7 setae on scutum 5
2. Palpal tarsus with 4 branched setae, leg tarsus I without subterminala *Albeckia*
 Palpal tarsus with 7 branched setae, leg tarsus I with subterminala 3
3. Scutum with nasus *Odontacarus*
 Scutum without nasus 4
4. Cheliceral blade with dorsal and ventral rows of teeth, palpotibial claw with more than 2 prongs, spiracles and tracheae present but minute in *W. guerrensis* ... *Whartonia*
 Cheliceral blade with tricuspid cap only, palpotibial claw bifurcate, spiracles and tracheae absent *Wagenaaria*
- 5(1). Scutum with 2 anteromedian setae and a nasus (Apoloniinae) *Apolonia*
 Scutum with 1 anteromedian seta and no nasus (Trombiculinae) 6
6. Leg segmentation 7-6-6, sensillae expanded 7
 Leg segmentation 7-7-7, sensillae flagelliform, thickened or considerably expanded 11
7. Palpal tarsus with 4 branched setae, endoparasitic *Intercutestrix*
 Palpal tarsus with 5 branched setae 8
8. Dorsal platelets present, posterolateral setae usually on scutum *Polylopadium*
 Dorsal platelets absent, posterolateral setae off scutum 9
9. Laterosternal setae between coxae II and III *Pseudoschoengastia*
 No laterosternal setae between coxae II and III 10
10. Scutum wider than long, coxa III with anteroproximal angle, 3 genualae I, 1 pair of humeral setae *Vandicus*
 Scutum longer than wide, coxa III without anteroproximal angle, 2 genualae I, 2 pairs of humeral setae *Anomalaspis*
11. Palpal tarsus with 4 branched setae, sensillae expanded 12
 Palpal tarsus with more than 4 branched setae, sensillae of various forms 14
12. Coxa III multisetose, idiosomal setae differentiated, ventral setae extend into sternal area *Aitkenius*
 Coxa III unisetose, idiosomal setae undifferentiated, ventral setae do not extend into sternal area 13
13. Mastitarsala III present, genuala II and III absent Genus A
 Mastitarsala III absent, genuala II and III present *Quadrasetta*
- 14(II). Palpal tarsus with 5 branched setae, sensillae expanded 15
 Palpal tarsus with more than 5 branched setae, sensillae of various forms 17
15. Coxae II and III multisetose, tibiala III absent, palpal tarsus without subterminala, intranasal *Kymoeta*
 Coxae II and III unisetose, tibiala III present, palpal tarsus with subterminala, not intrausal 16
16. Sensillae somewhat thickened to fusiform, with very long setules, microtarsala I proximad or distad of tarsala I, on bats *Perissopalla*
 Sensillae broadly expanded, with short setules, microtarsala I always proximad of tarsala I, principally on rodents *Colicus*
- 17(14). Palpal tarsus with 6 branched or 6 branched and nude setae 18
 Palpal tarsus with 7 branched setae 24

18. Tarsi of legs with subapical nude setae, microtarsala II distad of tarsala II, apical half of sensillae densely clothed by broad setules with tapering tips, on bats *Speleocola*
Tarsi without subapical nude setae, microtarsala II proximad of tarsala II, sensillae expanded or flagelliform 19
19. Genuae II and III absent, on bats *Loomisia*
Genuae II and III present 20
20. Sensillae expanded asymmetrically *Arisocerus*
Sensillae expanded symmetrically or flagelliform 21
21. Palpal tarsal setae branched, leg I without parasubterminala, sensillae flagelliform, scutum with acute posterior angle *Boshkerria*
Palpal tarsal setae branched and nude, leg I with parasubterminala, posterior angle of scutum rarely acute 22
22. Sensillae nude flagelliform, palpal tibial claw bifurcate, without mastitarsala III, microsetae of legs peglike, on bats *Phalcophila*
Sensillae branched flagelliform or expanded, palpal tibial claw trifurcate or bifurcate, with mastitarsala III, microsetae of legs of usual form 23
23. Anterior margin of scutum angulate, anterolateral setae of scutum marginal, sensillae expanded, cheliceral blade with accessory dorsal tooth *Nasicola*
Anterior margin of scutum not angulate, anterolateral setae of scutum submarginal, sensillae branched flagelliform or somewhat expanded, cheliceral blade without accessory dorsal tooth *Microtrombicula*
- 24(17). Palpal tarsus without subterminala, microtarsala I laterad of and nearly contiguous with tarsala I, with mastitibiala III *Atelepalme*
Palpal tarsus with subterminala, microtarsala I distad of tarsala I, without mastitibiala III except in some species of *Eutrombicula* 25
25. Sensillae expanded 26
Sensillae flagelliform 27
26. Scutum with pattern of striae on posterior half, cheliceral blade without accessory dorsal tooth, on birds *Neoschoengastia*
Scutum without striae, cheliceral blade with accessory dorsal tooth, intranasal on mammals *Rhinibius*
- 27(25). Palpal tibial claw single pronged, a mastitarsala III *Crotiscus*
Palpal tibial claw bifurcate or trifurcate, mastitarsala III present or absent 28
28. Scutum with 7 setae *Hoffmannina*
Scutum with 5 setae 29
29. Cheliceral blade with subapical series of ventral teeth 30
Cheliceral blade with tricuspid cap 31
30. Cheliceral blade with subapical multiserrate hood, posterior margin of scutum with median tip *Beamerella*
Cheliceral blade with few subapical teeth, posterior margin of scutum lacking median tip *Hooperella*
- 31(29). Posterolateral setae off scutum, palpal tibial claw deeply cleft, eyes punctate, anterolateral scutal setae far posterior to margin, on bats *Nycterinastes*
Posterolateral setae on scutum, palpal tibial claw trifurcate or bifurcate, eyes impunctate, anterolateral scutal setae may be submarginal but never far posterior 32
32. Palpal tibial claw bifurcate, the accessory prong inner and ventral *Eutrombicula*
Palpal tibial claw trifurcate or if bifurcate, the accessory prong outer and dorsal 33

33. Scutum subcordate, projected posteriorly, the widely separated sensillae and setae in anterior third, palpal tibial claw bifurcate *Buclypeus*
 Scutum and vestiture otherwise, palpal tibial claw bifurcate or trifurcate 34
34. Eyes in scutum *Peltoeculus*
 Eyes not in scutum 35
35. Telofemur III with 4 setae; palpal femoral, genual and tibial setae nude; no mastitarsala III; anterolateral setae of scutum marginal *Chiroptella*
 Telofemur III with 3 setae, palpal setae otherwise, mastitarsala III present except in some *Parasecia* species, anterolateral setae of scutum submarginal 36
36. Scutum subpentagonal, on birds *Blankartia*
 Scutum subrectangular with sinuous margins *Parasecia*

Genus *Aitkenius* Brennan, 1970

Type species: Euschöngastia cunctata Brennan and Jones, 1961

Aitkenius ciscunctatus Brennan and Reed

Aitkenius ciscunctatus Brennan and Reed, 1973a, p. 532.

No records except those of the original description: 52 larvae off *Zygodontomys brevicauda*, *Nectomys squanipes*, and *Proechimys semispinosus*, Amazonas.

Aitkenius hystricosus Brennan and Reed

Aitkenius hystricosus Brennan and Reed, 1973a, p. 532.

Described from 1 specimen off *Proechimys semispinosus*, Apure. No further records.

Aitkenius senticosus Brennan and Reed

Aitkenius senticosus Brennan and Reed, 1973a, p. 532.

Known only from material of the original description: 11 larvae off *Oryzomys minutus*, *O. albicularis*, and *Thomasomys hylophilus*, Táchira.

Genus *Albeckia* Verecammen-Grandjean and Watkins, 1966

Type species: Albeckia albecki Verecammen-Grandjean and Watkins, 1966

Albeckia albecki Verecammen-Grandjean and Watkins

Albeckia albecki Verecammen-Grandjean and Watkins, 1966, p. 74.

One larva off *Eptesicus montosus*, Distrito Federal, 4 km NNW Caracas (Los Venados), 1559 m, 25 Jul 1965; 7 off *Histiopus* sp. A., D., F., 5 km NNE Caracas (Pico Avila), 2101 m, 23 Aug 1965.

These Venezuela data, as recorded by Reed and Brennan (1975), constitute the only additional records since *A. albecki* was described from 40 larvae off 2 bats (*Antrozous pallidus pacificus*) Solano Co., California.

Genus *Anomalaspis* Brennan, 1952

Type species: Anomalaspis ambiguus Brennan, 1952

Anomalaspis ambigua Brennan

Anomalaspis ambiguus Brennan, 1952, p. 143.

Two larvae off *Heteromys anomalus*, Miranda, 33 km WSW Caracas (Alto No León), 1962 m, 24 May 1967.

Described from a single larva off *H. anomalus*, Aragua. Brennan (1971) recorded another larva off *H. anomalus*, Distrito Federal, 25 Aug 1965. Despite extensive collecting in Venezuela and elsewhere in the Neotropical region, these data provide the only records of *A. ambigua* in more than 20 years.

Genus *Apolonia* Torres and Braga, 1938

Type species: Apolonia tigipioensis Torres and Braga, 1938

**Apolonia tigipioensis* Torres and Braga

Apolonia tigipioensis Torres and Braga, 1938, p. 171.

Ten larvae off *Leptonycteris curasoae*, Falcón, Peninsula de Paraguaná, 25 km SW Pueblo Nuevo (Yabuquiva), 13 m, 17 Jul 1968; 28 off *Sylvilagus floridanus*, Falcón, Capatárida, 40 m, 20 Jun to 1 Jul 1968; 233 off 28 *S. floridanus*, Falcón, Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo (Morný), 45-55 m, 11-17 Jul 1968; 6 off *S. floridanus*, Guárico, 16 km NW Barbaocoas, 228 m, 2 Mar 1966; 4 off *S. floridanus*,

Nueva Esparta, 36 km W Porlamar, 10 m, 30 Jan 1967; 1 off *Mus musculus*, Falcón, Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo (Moruy), 55 m, 15 Jul 1968.

The above are new host and locality records for this peculiar species described from Pernambuco, Brazil, off domestic chicken, where the singly encapsulated larvae produce nodular lesions basally in the quills of developing feathers of chicks. Siqueira (1949) reports a human case involving *A. tigipioensis*.

Genus *Arisocerus* Brennan, 1970

Type species: *Arisocerus amapensis* Brennan, 1970

**Arisocerus amapensis* Brennan

Arisocerus amapensis Brennan, 1970a, p. 32.

One larva off *Proechimys guyanensis*, Bolívar, 45 km NE Icabarú (Santa Lucía de Surukun), 851 m, 15 May 1968.

No other records beyond those of the original description: type series off *Oryzomys macconnelli*, Amapá, Brazil, and numerous larvae off *O. capito* and *Proechimys guyanensis*, northern Brazil; 3 off *O. laticeps* and 1 off *Myoprocta acouchy*, Surinam.

Genus *Atelepalm* Brennan and Reed, 1973

Type species: *Atelepalm smarman* Brennan and Reed, 1973

Atelepalm smarman Brennan and Reed

Atelepalm smarman Brennan and Reed, 1973b, p. 706.

No records other than those of the original description: 6 larvae off *Zygodontomys brevicauda* from Guárico and Bolívar.

Atelepalm sp. A

Six larvae off *Marmosa robinsoni*, 60 off 15 *Sylvilagus floridanus*, and 5 off *Calomys hummelincki*, Falcón, Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo (Moruy), 45-90 m, 8 to 30 Jul 1968.

Genus *Beamerella* Brennan, 1958

Type species: *Beamerella acutascuta* Brennan, 1958

**Beamerella acutascuta* Brennan

Beamerella acutascuta Brennan, 1958, p. 72.

One larva off unidentified lizard, Bolívar, 20 km W La Paragua (Hato San Jose), 298 m,

28 Mar 1967; 2 off *Saccopteryx bilineata*, Amazonas, 163 km ESE Puerto Ayacucho (San Juan), Río Manapiare, 155 m, 21 Jul 1967; 5 off *S. bilineata*, Trujillo, 23 km N Valera (Agua Viva), 164 m, 30 Aug 1965; 2 off *Micronycteris megalotis*, Apure, 46 km NE Puerto Páez (Hato Cariben), Río Cinaruco, 76 m, 14 Dec 1965; 1 off *Mimon crenulatum*, Apure, 29 km SSW Santo Domingo (Nulita), 24 m, 22 Jan 1968; 11 off 2 *Phyllostomus discolor*, Trujillo, 25 km NW Valera (Agua Santa), 90 m, 18-22 Oct 1965; 1 off *P. discolor*, Amazonas, 108 km SSE Esmeralda, Río Mavaca, 140 m, 14 Apr 1967; 4 off *P. discolor*, Miranda, 60 km E Caracas (Birongo), 60 m, 23 Jan 1968; 1 off *Trachops cirrhosus*, Amazonas, 84 km SSE Esmeralda (Boca Mavaca), 138 m, 20 Feb 1966; 12 off *Carollia perspicillata*, Miranda, 1 km S Río Chico, 1 m, 26 Oct 1966; 6 off *Artibeus jamaicensis*, Trujillo, 23 km N Valera (Agua Viva), 164 m, 1 Sep 1965; 1 off *A. jamaicensis*, Trujillo, 25 km NW Valera (Agua Santa), 90 m, 7 Sep 1965; 10 off *A. jamaicensis*, Zulia, 33 km NW La Paz (Nr. Cerro Azul), 75 m, 14 Jun 1968; 1 off *Desmodus rotundus*, Guárico, 10 km NE Altigracia (Hacienda Elvira), 630 m, 16 Sep 1966; 2 off *Molossus ater*, Apure, Puerto Páez, 76 m, 17 Jan 1966.

Described from *Chilonycteris rubiginosa* and *Carollia perspicillata*, Trinidad, this bat chigger has been recorded from *Mimon crenulatum*, *Micronycteris xenotenes*, and *Saccopteryx* sp., Trinidad (Brennan and Jones, 1960); *Micronycteris megalotis*, *S. bilineata*, and *C. perspicillata*, Panama (Brennan and Yunker, 1966) *Trachops cirrhosus*, Bolivia (Brennan, 1970b).

Beamerella sp. A.

Five larvae off *Molossus aztecus*, Bolívar, 47 km ESE Caicara (Hato La Florida), 50 m, 19 Apr 1967; 1 off *M. sinaloae*, Yaracuy, 10 km NW Urama, 25 m, 8 Mar 1966.

Genus *Blankaartia* Oudemans, 1911

Type species: *Trombidium noliticum* Trägårdh, 1905

**Blankaartia sinnamaryi* (Floch and Fauran)

Trombicula (*Trägardula*)! *sinnamaryi* Floch and Fauran, 1956, p. 3.

Six larvae off unidentified bird and owl, Bolívar, 20 km W La Paragua (Hato San Jose), 300 m, 6 Apr 1967; 1 off unidentified bird, Falcón, Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo (Cerro Santa Ana), 565 m, 1 Aug 1968; 2 off owl, Yaracuy, 20 km NW San Felipe (Mi-

nas de Aroa), 395 m, 13 Dec 1967; 15 off 2 capybara (*Hydrochaeris hydrochaeris*), Monagas, 54 km S Maturín (Hato de Bejuco), 18 m, 8 Jun 1968.

The holotype larva of this bird chigger was taken unengorged from flooded plains in French Guiana; 2 others presumably from bird and another off parakeet comprise the "type series." Brennan (1953) recorded the species as *Trombicula* sp. off *Myadestes genibarbis*, Jamaica; many larvae from numerous bird species and a reptile were recorded by Brennan and Jones (1960) from Trinidad, and (1961a) off *Thryothorus genibarbis*, Peru; Brennan and Yunker (1966) identified several hundred larvae from 26 species of birds and a bat in Panama. The only records of the Neotropical *B. sinnamaryi* from the United States are 2 larvae off *Dumetella carolinensis* and 1 off *Hyllocichla mustelina*, Cameron Co., Texas (Brennan, 1965).

Genus *Boshkerria* Fauran, 1959

Type species: Boshkerria tuberculata Fauran, 1959

**Boshkerria punctata* (Boshell and Kerr)

Trombicula punctata Boshell and Kerr, 1942, p. 15 (reprint).

One larva off *Carollia perspicillata*, Falcón, 14 km ENE Mirimire (La Pastora), 122 m, 11 Nov 1967; 23 off 4 *Heteromys anomalus*, Sucre, 26 km ESE Carúpano (Manacal), 190-575 m, 27 Jul to 1 Aug 1967; 1 off *Zygodontomys brevicauda*, Falcón, 80 km NW Carora (Río Socopo), 480 m, 20 May 1968; 7 off *Z. brevicauda*, Trujillo, 30 km NW Valera (El Dividive), 90 m, 5 Oct 1965; 1 off *Z. brevicauda*, Zulía, 40 km NW La Paz (nr. Cerro Azul), 80 m, 9 Jun 1968; 1 off *Agouti paca*, Monagas, 54 km S Maturín (Hato de Bejuco), 18 m, 9 Jun 1968; 2 off *Proechimys guyanensis*, Amazonas, 163 km ESE Puerto Ayacucho (San Juan, Río Manapiare), 155 m, 11 Jul 1967; 2 off *P. semispinosus*, Falcón, 80 km NW Carora (Río Socopo), 470 m, 23 May 1968; 7 off *P. semispinosus*, Sucre, 26 km ESE Carúpano (Manacal), 26 Jul 1967; 1 off *P. semispinosus*, Trujillo, 48 km WNW Valera (La Ceiba), 27 m, 5 Nov 1965.

Other records since described off *Cuniculus paca*, Colombia, are: 1 larva off *Proechimys guyanensis*, Trinidad (Brennan and Jones, 1960); 1 off *Orozomys keaysi*, Peru (Brennan and Jones, 1961a); 22 off 2 *Hoplomys gymnurus*, Panamá (Brennan and Yunker, 1966); 1 off *Dasyprocta* sp., Surinam (Brennan, 1970a).

Genus *Buchypeus* Brennan, 1972

Type species: Trombicula ignota Brennan, 1971

Buchypeus daptops Brennan

Buchypeus daptops Brennan, 1972b, p. 1179.

Described from 13 larvae off 6 *Proechimys guyanensis*, Amazonas.

New records are: 2 off *Proechimys semisponosus*, Amazonas, 68 km SSE Esmeralda (10 km up Río Mavaca from Boca Mavaca), 138 m, 17 Mar 1967; 1 off *P. guyanensis*, same locality and date; 1 off *P. guyanensis* Amazonas, Belén (Río Cunucunuma), 150 m, 2 Jan 1967.

Genus *Chiroptella* Verecannen-Grandjean, 1960

Type species: Trombicula insolli Philip and Traub, 1950

**Chiroptella (Oudemansidium) australis* (Brennan)

Leptotrombidium australis Brennan, 1970b, p. 810.

One specimen off *Tadarida gracilis*, Amazonas, 56 km NNW Esmeralda (Belén, Río Cunucunuma), 150 m, 13 Jan 1967.

First record since described from numerous larvae off several bats (*Tadarida laticaudata*) from Rondônia, Brazil.

Genus *Colicus* Brennan, 1970

Type species: Colicus icomi Brennan, 1970

**Colicus colombiae* (Boshell and Kerr)

Neoschongastia colombiae (in part), Boshell and Kerr, 1942, p. 16 (reprint).

Ten larvae off *Monodelphis brevicaudata*, Amazonas, 32 km SSE Puerto Ayacucho (Rayá), 135 m, 11 Sep 1967; 1 off *Sigmomys alstoni*, Bolívar, 46 km NE Icabará, 15 May 1968.

Other records since described off *Proechimys chrysaecolus*, Colombia, are: 15 larvae off *Proechimys* sp., *P. chrysaecolus*, *Dasyprocta* sp., and *Myoprocta* sp., Colombia (Brennan, 1970c).

**Colicus johnsoni* (Yunker and Brennan)

Euschoengastia johnsoni Yunker and Brennan, 1964, p. 194.

Ten larvae off *Didelphis marsupialis* and 1 off *Echimyus armatus*, Amazonas, 84 km SSE Esmeralda, (Boca Mavaca), 138 m, 17-20 Mar 1967.

Described off *Calomys callosus* and *Pro-*

echinmys guyanensis, Bolivia; also recorded by Brennan (1970b) off *Oryzomys capito* and *Proechinmys* sp., Bolivian-Brazilian border.

**Colicus pichindensis* (Brennan)

Euschoengastia pichindensis Brennan, 1968a, p. 682.

Three larvae off 2 *Oryzomys albigularis*, Miranda, 3 km NE Caracas (Quebrada Chacaito), 1150-1170 m, 17-18 May 1967; 1 off *O. albigularis*, Aragua, 13 km NW Maracay (Rancho Grande Biological Station), 1050 m, 9 Aug 1965; 1 off *Sigmodon hispidus*, Barinas, Altamira, 697 m, 22 Dec 1967.

First records since described off *Oryzomys caliginosus*, Colombia.

Colicus sp. A

Eight larvae off 3 *Akodon urichi*, Falcón 84 km NW Carora (Cerro Socopo), 1260 m, 13-18 May 1968; 1 off *Oryzomys albigularis*, Miranda, 5 km NNW Guarenas (Curupao), 1160 m, 10 Oct 1966.

Colicus sp. B

Nine larvae off *Dasyprocta fuliginosa*, Amazonas, 163 km ESE Puerto Ayacucho (San Juan, Río Manapiare), 155 m, 7 Jul 1967; 1 off *Momodelphis breviceaudata*, Zulia, 21 km SW Machiques (Kasmera), 270 m, 20 Apr 1968.

Colicus sp. C

Five larvae off *Proechinmys guyanensis*, Amazonas, Tamatama, Río Orinoco, 135 m, 21 May 1967; 1 off *P. guyanensis*, Amazonas, 56 km NNW Esmeralda (Belén, Río Cunucunuma), 150 m, 3 Jan 1967.

Genus *Crotiscus* Ewing, 1944

Type species: *Trombicula desdentata* Boshell and Kerr, 1942

Crotiscus desdentatus (Boshell and Kerr)

Trombicula desdentata Boshell and Kerr, 1942, p. 11 (reprint).

About 140 larvae identified from 32 collections. Opossums: 1 *Marmosa fuscata*, 2 *Philander opossum*. Bats: 1 *Vampyrops helleri*, 1 *Vampyressa pusilla*, 1 *Promops nasutus*. Rodents: 1 *Sciurus aestuans*, 2 *S. granatensis*, 2 *Heteromys anomalus*, 2 *Thomasomys lugens*, 5 *Oryzomys albigularis*, 1 *O. minutus*, 1 *Oryzomys* sp., 1 *Nectomys alfarei*, 1 *N. squamipes*, 1 *Zygodon-*

tomys breviceauda, 3 *Rattus rattus*, 5 *P. semispinosus*, 1 *Echinmys armatus*.

Apure, 24 m, Jan 1968; Aragua, 1050 m, Aug 1965; Carabobo, 1513-1810 m, Nov 1967 and Aug 1968; Falcón, 25-470 m, Oct 1965 and May 1968; Distrito Federal, 1780 m, Dec. 1965; Mérida, 2040-2630 m, Apr and May 1966; Monagas, 1010 m, Jul 1967; Táchira, 2380 m, Mar 1968; Amazonas, 130-1400 m, Feb to Jul 1967; Trujillo, 90-2350 m, Oct 1965 and Jan 1966; Zulia, 37-1135 m, Mar and May 1968.

Numerous specimens of this common Neotropical species, described off *Proechinmys chrysaecolus*, Colombia, are recorded also from various mammalian hosts elsewhere in Colombia and Venezuela as well as Trinidad and Panamá (Brennan, 1957 and 1968a, Brennan and Jones, 1960, Brennan and Yunker, 1966).

Crotiscus sp. A

About 650 larvae identified from 116 collections. One bird, unidentified. Opossums: 1 *Marmosa dryas*, 5 *M. impavida*, 1 *M. robinsoni*, 1 *Didelphis azarae*, 2 *Caenolestes obscurus*. Insectivore: 5 *Cryptotis thomasi*. Rodents: 1 *Sciurus granatensis*, 1 *Heteromys anomalus*, 11 *Oryzomys albigularis*, 6 *O. fulvescens*, 31 *O. minutus*, 8 *Rhipidomys venustus*, 37 *Thomasomys hylophilus*, 5 *Akodon bogotensis*.

Guárico, 181 m, Jan 1968; Táchira, 2355-2455 m, Mar 1968; Zulia, 37-54 m, Mar and Apr 1968.

Genus *Eutrombicula* Ewing, 1938

Type species: *Microtrombidium alfreddugesi* Oudemans, 1910

This medically important genus is represented in Venezuela by 22 species, of which 16 are new. Inasmuch as the group has been detailed separately by Brennan and Reed (1974), particulars of collecting data are omitted here.

Eutrombicula alfreddugesi (Oudemans)

Microtrombidium alfreddugesi Oudemans, 1910, p. 84.

More than 600 larvae from 123 collections of reptiles, marsupials, rodents, a lagomorph, and an anteater—taken throughout Venezuela at elevations from sea level to 1100 m, at all seasons.

Eutrombicula batatas (Linnaeus)

Acarus batatas Linnaeus, 1758, p. 617.

More than 800 larvae from 157 collections of marsupials, bats, rodents, lagomorphs, a lizard,

and a bird—with much the same distributional pattern as *E. alfreddugesi*.

Eutrombicula cricetivora Brennan and Reed

Eutrombicula cricetivora Brennan and Reed, 1974, p. 700.

Common on cricetid rodents at high elevations, 2200-3400 m, in western Venezuela (Cordillera de Mérida), Jan to Apr.

Eutrombicula goeldii (Oudemans)

Microthrombidium goeldii Oudemans, 1910, p. 84.

Taken more commonly and abundantly than any other chigger in Venezuela. About 4,000 larvae from 608 collections including a frog, lizards, birds, numerous marsupials and rodents, bats, a shrew, a tapir, and brocket deer—throughout Venezuela from sea level to over 3500 m at all seasons.

Eutrombicula jenkinsi Brennan and Reed

Eutrombicula jenkinsi Brennan and Reed, 1974, p. 700.

Seven larvae off cricetids, Mérida and Trujillo, 2225-3170 m, Jan and Mar.

Eutrombicula leegoffi Brennan and Reed

Eutrombicula leegoffi Brennan and Reed, 1974, p. 702.

Taken from cricetid rodents and marsupials, Mérida and Trujillo, 2225-3300 m, Jan and Feb.

Eutrombicula longiseta Brennan and Reed

Eutrombicula longiseta Brennan and Reed, 1974, p. 702.

Three larvae off cricetid rodents, Mérida, 2630 m, Apr.

Eutrombicula lukoschusi Brennan and Reed

Eutrombicula lukoschusi Brennan and Reed, 1974, p. 702.

Taken from cricetids and a marsupial, Táchira, 2385 m, Mar.

Eutrombicula marmosa Brennan and Reed

Eutrombicula marmosa Brennan and Reed, 1974, p. 703.

Fifteen larvae off marsupial and cricetid rodent, Distrito Federal, 1750-1975 m, May and Dec.

Eutrombicula nadchatrami Brennan and Reed

Eutrombicula nadchatrami Brennan and Reed, 1974, p. 703.

Five larvae off rodents and bat, Distrito Federal and Trujillo, 90-2165 m, Aug, Oct, and Dec.

Eutrombicula neotropicalis Brennan and Reed

Eutrombicula neotropicalis Brennan and Reed, 1974, p. 704.

Taken principally from cricetid rodents at high elevations, 2350-3300 m, in western Venezuela, Jan to Apr, and Aug.

**Eutrombicula pacae* (Floch and Fauran)

Trombicula (Eutrombicula) pacae Floch and Fauran, 1957, p. 1.

Eleven larvae off marsupials, a bat, and rodents taken in Amazonas, Miranda, Monagas, Nueva Esparta, Trujillo, and Yaracuy, at elevations from sea level to 2200 m in months of Jan, Feb, Jun, and Oct.

Eutrombicula spipi Brennan and Reed

Eutrombicula spipi Brennan and Reed, 1974, p. 705.

Fairly common on echimyid rodents, also off a marsupial and bat, Amazonas, Bolívar and Monagas, 138-1329 m, Mar, Apr, and Jul.

Eutrombicula tachirae Brennan and Reed

Eutrombicula tachirae Brennan and Reed, 1974, p. 705.

Common on cricetid rodents, Táchira and Trujillo, 2220-2386 m, Jan and Mar.

Eutrombicula tanychaeta Brennan and Reed

Eutrombicula tanychaeta Brennan and Reed, 1974, p. 706.

Three larvae off marsupial, Mérida, 3155 m, Mar.

**Eutrombicula tinami* (Oudemans)

Microthrombidium tinami Oudemans, 1910, p. 84.

Nineteen larvae off marsupials and rodents from Guárico and Bolívar, 150 to 335 m, Jan and Apr.

Eutrombicula tropica (Ewing)

Trombicula irritans var. *tropica* Ewing, 1925, p. 258.

Over 200 larvae from 54 collections of lizards, marsupials, rodents, a bat, and a monkey—throughout much of Venezuela (12 states) from sea level to 1100 m, at all seasons.

Eutrombicula vacillata Brennan and Reed

Eutrombicula vacillata Brennan and Reed, 1974, p. 707.

Five larvae off marsupial, Mérida, 3265 m, Feb.

Eutrombicula variabilis Brennan and Reed

Eutrombicula nachatrami Brennan and Reed, 1974, p. 707.

From rodents, shrews, and bats, Apure and Mérida, 75-2040 m, Jan, May, and Dec.

Eutrombicula venezuelensis Brennan and Reed

Eutrombicula venezuelensis Brennan and Reed, 1974, p. 707.

Fifteen larvae off cricetid rodents, Mérida, 3150-3430 m, Mar.

Eutrombicula webbi Brennan and Reed

Eutrombicula webbi Brennan and Reed, 1974, p. 708.

Numerous larvae, principally off cricetid rodents in western Venezuela (Cordillera de Mérida), 90-3200 m, Jan to May, and Oct.

Eutrombicula wolfenbarger Brennan and Reed

Eutrombicula wolfenbarger Brennan and Reed, 1974, p. 709.

Taken principally from shrew, also opossum and cricetids, Mérida, 3155-3545 m, Mar.

Genus *Hoffmannina* Brennan and Jones, 1959

Type species: Novotrombicula suriana Hoffmann, 1954

Hoffmannina reedi Brennan

Hoffmannina reedi Brennan, 1972a, p. 16.

This species was described from Trujillo, Venezuela, off *Marmosa fuscata* and *Thomasomys laniger*. New Venezuela records are: 2 larvae off *Oryzomys minutus*, Trujillo, 15 km E Trujillo (Hacienda Misisí), 2360 m, 29 Jan 1966; 10 off 3 *Thomasomys lugens*, 14 km E Trujillo (Hacienda Misisí), 2210-2225 m, 27 and 29 Jan 1966; 2 off *T. lugens*, Mérida, 6 km SE Tabay, 2590 m, 11 Apr 1966.

Hoffmannina sp. A

One larva off *Neoplatymops mattogrossensis*, Bolívar, 28 km SE Manteco (Los Patos), 150 m, 11 Apr 1966; 7 off 3 *Cryptotis thomasi*, Mérida, 8 km SE Tabay (La Coromoto), 3160-3175 m,

13-21 Mar 1966; 4 off 2 *C. thomasi*, 10 km SE Tabay (Laguna Verde), 3533-3545 m, 20-21 Mar 1966; 3 off 3 *Oryzomys minutus*, 9-10 km SE Tabay (La Coromoto), 3310-3410 m, 15-18 Mar 1966; 5 off 5 *T. laniger*, 7 km SE Tabay (La Coromoto), 3170-3185 m, 11-15 Mar 1966; 1 off *Dasyprocta* sp., Carabobo, 2 km ENE Montalbán (Hacienda Montero), 598 m, 6 Nov 1967.

Hoffmannina sp. B

Nine larvae off *Rhipidomys maccounelli*, Amazonas, 50 km NNW Esmeralda (Cerro Duida, Caño Culebra), 825 m, 19 Jan 1967; 2 off *Daptomys venezuelae*, Amazonas, 32 km NW Esmeralda (Cerro Duida, Cabecera del Caño Negro), 1400 m, 15 Feb 1967.

Genus *Hooperella* Vercammen-Grandjean, 1967

Type species: Tecomatlana (Hooperella) spinirostra Vercammen-Grandjean, 1967

**Hooperella saccopteryx* (Brennan and Jones)

Trombicula saccopteryx Brennan and Jones, 1960, p. 530.

Some 900 larvae identified from 107 lots. Bats: 86 *Saccopteryx bilineata*, 2 *S. leptura*, 2 *Saccopteryx* sp., 1 *Cornura brevirostris*, 5 *Peropteryx kappleri*, 4 *P. macrotis*, 1 *Mimon crenulatum*, 1 *Carollia brevicauda*, 1 *Desmodus rotundus*, 1 *Molossus ater*. Rodents: 1 *Sigmomys alstoni*, 1 *Rattus rattus*, 2 *Proechimys guyanensis*.

Apure, 76 m, Feb 1966; Bolívar, 150 m, Apr 1966 and 1967; Carabobo, 701-1537 m, Jan 1966 and Nov 1967; Falcón, 2-140 m, Sep 1965 and Nov 1967; Amazonas, 135-155 m, Jan to Oct 1967; Miranda, 1-730 m, Jan, Sep, and Nov, 1966, Jan 1968; Sucre, 1-200 m, Jun and Jul 1967; Trujillo, 90-164 m, Aug and Sep 1965; Yaracuy, 2-395 m, Sep and Nov 1965, Dec 1967; Zulia, 75-80 m, Jun 1968.

This bat chigger, described from numerous larvae off *Saccopteryx bilineata* and 1 off *Desmodus rotundus*, Trinidad, has been commonly recorded off *S. bilineata* in Peru, Surinam, Panamá, and Yucatán (Brennan, 1970a, Brennan and Jones, 1961a, Brennan and Yunker, 1966, Loomis, 1969), and a single larva off *Peropteryx macrotis*, Bolivia (Brennan, 1970b). New records: 25 larvae off *Saccopteryx bilineata*, Guatemala, Alta Verapaz, Chinaja, 180 m, 27 Feb 1960, J. Knox Jones; 9 off *S. bilineata* and 10 off *Rhynchonycteris naso*, Colombia, Antioquia, Chigorodo, Río León, 6 Apr 1966, C. J. Marinkelle.

**Hooperella vesperuginis* (Brennan and Jones)

Trombicula vesperuginis Brennan and Jones, 1960, p. 533.

About 760 larvae identified from 155 collections. One bird, unidentified. Opossum: 1 *Marmosa robinsoni*. Bats: 3 *Saccopteryx bilineata*, 7 *Pteropteryx kappleri*, 2 *Pteronotus parnellii*, 1 *Micronycteris hirsuta*, 2 *M. megalotis*, 3 *M. microtis*, 1 *M. nicefori*, 3 *Phyllostomus discolor*, 5 *P. elongatus*, 1 *P. hastatus*, 1 *Phylloderma stenops*, 2 *Trachops cirrhosus*, 7 *Chrotopterus auritus*, 1 *Glossophaga longirostris*, 8 *G. soricina*, 1 *Lionycteris spurrelli*, 1 *Carollia brevicauda*, 57 *C. perspicillata*, 1 *Sturnira erythromis*, 1 *S. tilidae*, 1 *Chiroderma villosum*, 17 *Artibeus jamaicensis*, 18 *Desmodus rotundus*, 4 *Molossus ater*. Rodent: 1 *Echimys armatus*.

Apure, 24 m, Jan and Feb 1968; Barinas, 620 m, Dec 1967; Bolívar, 50-1032 m, Mar to Jun 1966, Mar to May 1967, May 1968; Carabobo, 701-1810 m, Nov 1967; Distrito Federal, 380-1524 m, Jul 1965, Aug 1966, Jul 1967; Falcón, 25-230 m, Oct and Nov 1965, and Nov 1967; Guárico, 181-630 m, Sep 1966, Jan 1968; Miranda, 0-1160 m, Jan 1968, Oct and Nov 1966; Monagas, 854 m, Jul 1967; Sucre, 0-575 m, Dec 1966, Jun to Nov 1967; Amazonas, 135-155 m, Mar to Oct 1967; Trujillo, 90-164 m, Aug to Oct 1965; Yaracuy, 2-25 m, Sep to Nov 1965; Zulia, 24-1135 m, Mar to Jun 1968.

H. vesperuginis, another common bat chigger, exhibiting less host preference than *H. saccopteryx*, was also described from Trinidad, holotype off *Artibeus jamaicensis*, numerous larvae off *Desmodus rotundus*, and several off *Carollia perspicillata*, *Micronycteris hirsuta*, *M. megalotis*, *Vampyrum spectrum* and *Saccopteryx bilineata*. Recorded also from Bolivia off *C. subrufa*, *D. rotundus*, and *Trachops cirrhosus* (Brennan, 1970b); Panamá off *C. perspicillata*, *Glossophaga soricina*, and *V. spectrum* (Brennan and Yunker, 1966); Trinidad off *C. perspicillata* (Brennan, 1967); Yucatán off *Artibeus jamaicensis* (Lomnis, 1969).

Genus *Intercutestrix* Brennan and Yunker, 1966

Type species: *Euschongastia tryssa* Brennan and Jones, 1961

Intercutestrix exigua Brennan and Reed

Intercutestrix exigua Brennan and Reed, 1974, p. 187.

No further records than those of the original description: off *Proechimys semispinosus*, Barinas, and *Signodon hispidus*, Carabobo.

Intercutestrix mondolfii Brennan and Yunker

Intercutestrix mondolfii Brennan and Yunker, 1969, p. 299.

Recorded by Brennan and Yunker (1969) from Venezuela: 48 larvae off 7 *Proechimys guyanensis*, Bolívar. No other records.

Intercutestrix pisinna Brennan and Reed

Intercutestrix pisinna Brennan and Reed, 1974, p. 187.

Known only from the original description: 2 larvae off *Proechimys guyanensis*, Amazonas.

Genus *Kymocta* Yunker and Brennan, 1962

Type species: *Doloisia (Kymocta) teratarsalis* Yunker and Brennan, 1962

Kymocta faitkeni Brennan

Kymocta faitkeni Brennan, 1968b, p. 614.

This species, described from northern Brazil off *Oryzomys capito*, was first reported in Venezuela by Brennan and Yunker (1969) off *Monodelphis brevicaudata* and *Rhipidomys* sp., Bolívar, and later by Brennan and van Bronswijk (1973) off *Rhipidomys macconnelli*, Amazonas. No additional records.

Kymocta inca (Brennan and Jones)

Doloisia inca Brennan and Jones, 1961a, p. 177.

Described from Peru off *Oryzomys keaysi*. Venezuela records are those of Brennan and Yunker (1969); off *Neacomys tenuipes*, *Sigmonys alstoni* and *Rhipidomys* sp., Bolívar, also Brennan and van Bronswijk (1973); from Amazonas off *Rhipidomys macconnelli* and *Akodon urichi*.

Kymocta zulia Brennan and van Bronswijk

Kymocta zulia Brennan and van Bronswijk, 1973, p. 451.

No records other than those of the original description: 37 larvae off 4 *Heteromys anomalous*, Zulia.

Genus *Loomisia* Brennan and Reed, 1972

Type species: *Euschongastia desmodus* Brennan and Dalmat, 1960

Loomisia alcithoae Brennan and Reed

Loomisia alcithoae Brennan and Reed, 1972a, p. 797.

This species was based only on the type series of 3 larvae off *Carollia brevicauda*, Bari-

nas. An additional record is 1 larva off *C. perspicillata*, Trujillo, 19 km N Valera (nr. Agua Viva), 164 m, 6 Oct 1965.

Loomisia bulbocalcar Brennan and Reed

Loomisia bulbocalcar Brennan and Reed, 1972a, p. 798.

No records other than those of the original description: 96 larvae off bats, *Peropteryx kappleri* and *P. macrotis*, and 3 off opossum, *Mono-delphis brevicaudata*, from Carabobo and Yaracuy.

Loomisia desmodus (Brennan and Dalmat)

Euschongastia desmodus Brennan and Dalmat, 1960, p. 188.

Venezuela data reported by Brennan and Reed (1972a) and additional records are summarized: 182 larvae from 68 bats of 15 species including *Anoura* sp., *Carollia brevicauda*, *C. perspicillata*, *Chrotopterus auritus*, *Desmodus rotundus*, *Glossophaga longirostris*, *G. soricina*, *Lonchophylla robusta*, *Micronycteris megalotis*, *Peropteryx kappleri*, *P. macrotis*, *Saccopteryx bilineata*, *Sturnira lilium*, *Trachops cirrhosus*, *Vampyressa pusilla*, and 1 larva off unidentified bird.

Apure, 24 m, 23-25 Jan 1968; Aragua, 1100 m, 7 Aug 1965; Barinas, 609-794 m, 13 Dec 1967 to 10 Jan 1968; Bolívar, 150-306 m, 30 Mar 1966 and 10 Apr 1967; Carabobo, 598-1537 m, 1-29 Nov 1967; Falcón, 2-1260 m, 27 Sep to 23 Nov 1967; 17 May 1968; Guárico, 470 m, 20 Sep 1966; Miranda 1-1160 m, 4-24 Oct 1966; Monagas, 854 m, 11 Jul 1967; Sucre, 90 m, 17-27 Jun 1967; Amazonas, 60-135 m, 11 May to 23 Nov 1967; Trujillo, 90-164 m, 1-6 Sep 1965; Yaracuy, 150-400 m, 7 Dec 1967; Zulia, 270-1135 m, 18 Apr to 4 May 1968.

L. desmodus, described from Guatemala off *Desmodus rotundus*, has been recorded off *Carollia perspicillata*, Trinidad (Brennan and Jones, 1960); off *Saccopteryx bilineata*, *Glossophaga soricina*, *Carollia castanea*, *C. subrufa*, and *Micronycteris megalotis*, Panamá (Brennan and Yunker, 1966); off *Erophylla sezcokorni*, Bahamas (Brennan, 1967); off *G. soricina* and *Mimomon cozumelae*, Yucatan (Loomis, 1969).

Loomisia yunkeri Brennan and Reed

Loomisia yunkeri Brennan and Reed, 1972a, p. 798

No records except those of the original description, here with corrected host identifications: type series off *Peropteryx macrotis*; 96

larvae off bats, *Peropteryx macrotis*, *P. trinitatis*, *Carollia perspicillata*, *Cormura brevirostris*, and *Glossophaga longirostris*, from Barinas, Bolívar, and Falcón.

Genus *Microtrombicula* Ewing, 1950

Type species: *Microthronbidium minutissimum* Oudemans, 1910

**Microtrombicula boneti* (Hoffmann)

Trombicula (*Trombicula*) *boneti* Hoffmann, 1952, p. 87.

One larva off *Pteronotus parnellii*, Miranda, Biringo, 60 m, 22 Jan 1968; 2 off *Anoura caudifera*, Carabobo, 4 km NW Montalbán (La Copa), 1537 m, 26 Nov 1967; 1 off *Carollia perspicillata*, Falcón, 14 km ENE Mirimire (La Pastora), 60 m, 23 Nov 1967; 9 off *Desmodus rotundus*, Zulia, 21 km SW Machiques (Kasmera), 270 m, 20 Apr 1968.

Described from Mexico off *Mormoops megalophylla*. Webb and Loomis (1971) report this bat chigger from Costa Rica off *Desmodus rotundus*; from Mexico off *D. rotundus*, *Natalus stramineus*, *Leptonycteris sanborni*, *Glossophaga soricina*, *Mormoops megalophylla*, and *Pteronotus parnellii*; from Texas off *M. megalophylla*. Recorded as *Trombicula tibbettsi* from: *Myotis grisescens*, Alabama, *M. megalophylla*, Texas, *M. timidiceps* and *Chilonycteris rubiginosa*. Trinidad (Brennan and White, 1960); *C. rubiginosa* and *M. megalophylla*, Trinidad (Brennan and Jones, 1960); *M. megalophylla*, Texas (Loomis and Crossley, 1963); *Pteronotus sapurensis*, Panamá (Brennan and Yunker, 1966); *Erophylla sezcokorni*, Bahamas, and *Glossophaga elongata*, Curaçao (Brennan, 1967).

**Microtrombicula carmenae* (Brennan and Jones)

Trombicula carmenae Brennan and Jones, 1960, p. 513.

Three larvae off *Phyllostomus discolor*, Trujillo, 25 km NW Valera (Agua Santa), 90 m, 22 Oct 1965; 1 off *Carollia perspicillata*, Bolívar, 50 km SE El Manteco (Río Supamo), 150 m, 7 Apr 1966; 2 off 2 *Sturnira lilium*, Falcón, 84 km NW Carora (Cerro Socopo), 1260 m, 17 May 1965; 10 off *S. lilium*, Monagas, 3 km NW Caripe, 1345 m, 11 Jul 1967; 1 off *S. ludovici*, Guárico, 10 km NE Altigracia (Hacienda Elvira), 630 m, 16 Sep 1966; 1 off *Artibeus harti*, Distrito Federal, 4 km NNW Caracas (Los Venados), 1400 m, 1 Aug 1965; 3 off 2 *A. jamaicensis*, Falcón, 80 km NW Carora (Río Socopo), 480 m, 20-22 May 1968; 3 off *A. jamaicensis*, Trujillo,

25 km NW Valera (Agua Santa), 90 m, 6 Sep 1965; 1 off *A. jamaicensis*, Yaraeuy, 20 km NW San Felipe (Minas de Aroa), 395 m, 15 Dec 1967; 12 off 3 *A. jamaicensis*, Zulia, 19 km WSW Machiques (Novito), 1135 m, 3 and 4 May 1968; 3 off *A. jamaicensis*, Zulia, 33 km NW La Paz (nr. Cerro Azul), 13 Jun 1968; 1 off *Rhipidomys venezuelae*, Falcón, Península de Paraguaná, 15 km SSW Pueblo Nuevo (Cerro Santa Ana), 570 m, 27 Jul 1968.

This bat chigger was described off *Phyllostomus discolor*, Trinidad. Additional records are: Panamá, off *P. hastatus*, *Sturnira ludovici*, and *Artibeus jamaicensis* (Brennan and Yunker, 1966); Costa Rica, off *P. discolor*, *S. ludovici*, *S. mordax*, *A. jamaicensis*, and *A. lituratus*; Nicaragua, off *P. discolor*, *A. jamaicensis*, and *Desmodus rotundus*; Mexico, off *A. jamaicensis*; Trinidad, off *D. rotundus* (Webb and Loomis, 1971).

**Microtrombicula fragibarba* (Brennan and Jones)

Trombicula fragibarba Brennan and Jones, 1960, p. 517.

One larva off unidentified bird, Bolívar, 20 km W La Paragua (Hato San José), 300 m, 4 Apr 1967; 164 off 19 *Marmosa robinsoni*, Guárico, 35 km SSW San Juan de los Morros (Hato las Palmitas), 181 m, 5-7 Jan 1968; 10 off *M. robinsoni*, Guárico, 9 km SE Calabozo (Biological Station), 100 m, 19 Aug 1968; 14 off 2 *M. robinsoni*, Falcón, Península de Paraguaná, 15 km SSW Pueblo Nuevo (Moruy), 90 m, 5 and 13 Jul 1968; 8 off *Didelphis marsupialis*, Falcón, 14 km ENE Mirimire (La Pastora), 130 m, 20 Nov 1967; 19 off 2 *Rhipidomys venezuelae*, Falcón, Península de Paraguaná, 25 km SW Pueblo Nuevo (Yabuquiva), 13 m, 17 Jul 1968; 9 off *R. venezuelae*, Falcón, Península de Paraguaná, 15 km SSW Pueblo Nuevo (Cerro Santa Ana), 575 m, 1 Aug 1968; 6 off 2 *R. fulviventris*, Monagas, 5 km NW Caripe (San Agustín), 1170-1185 m, 26 and 28 Jun 1967.

Described from type series off parrot, *Amazona amazonica*, and other material off climbing mouse, *Rhipidomys couesi*, Trinidad. Other records: Surinam, off *Didelphis marsupialis* and *Philander opossum* (Brennan and Lukosehus, 1971).

**Microtrombicula tragulata* (Brennan and Jones)

Euschöngastia tragulata Brennan and Jones, 1961b, p. 110.

Two larvae off *Marmosa robinsoni*, Guárico, 35 km SSW San Juan de los Morros (Hato las

Palmitas), 181 m, 5 Jan 1968; 9 off *Rattus rattus*, Trujillo, 30 km NW Valera (El Dividive), 90 m, 20 Oct 1965; 13 off 2 *Potos flavus*, Distrito Federal, 31 km WSW Caracas (Alto No León), 1750 m, 21 Dec 1965; 10 off *P. flavus*, Zulia, 33 km NW La Paz (nr. Cerro Azul), 80 m, 16 Jun 1968.

Described from Barro Colorado Island, Canal Zone, off *Nasua narica*; recorded elsewhere in the Canal Zone off *Didelphis marsupialis* and *Coendou rothschildi* (Brennan and Yunker, 1966); Baja California Sur, Mexico, off *Bassariscus astutus*; Nicaragua, off *Potos flavus* (Webb and Loomis, 1970).

Microtrombicula sp. A

Two larvae off 2 *Artibeus jamaicensis*, Zulia, 33 km NW La Paz (nr. Cerro Azul), 75 m, 13 and 15 Jun 1968.

Microtrombicula sp. B

Five larvae off *Rattus rattus*, Trujillo, 30 km NW Valera (El Dividive), 90 m, 20 Oct 1965; 7 off 2 *Potos flavus*, Distrito Federal, 31 km WSW Caracas (Alto No León), 1750 m, 21 Dec 1965.

Microtrombicula sp. C

Seventeen larvae off 4 *Neoplatymops mattogrossensis*, Amazonas, 33 km S Puerto Ayacucho (El Raudal), 195 m, 4 and 10 Oct 1967, 20 km S Puerto Ayacucho (Las Quesas), 135 m, 27 Sep 1967; 1 off *Carollia perspicillata*, Falcón, 11 km ENE Mirimire (La Pastora), 250 m, 21 Nov 1967.

Microtrombicula sp. D

Two larvae off unidentified bird, Bolívar, 20 km W La Paragua (Hato San José), 300 m, 4 Apr 1967.

Genus *Nasicola* Brennan and Yunker, 1969

Type species: Nasicola annereauxi Brennan and Yunker, 1969

Nasicola annereauxi Brennan and Yunker

Nasicola annereauxi Brennan and Yunker, 1969, p. 301.

One larva off *Marmosa robinsoni*, Falcón, Capatárida, 40 m, 25 Jun 1968; 1 off *Phyllostomus hastatus*, Falcón, 80 km NW Carora (Rio Socopo), 480 m, 20 May 1968; 44 off 11 *P. hastatus* and 1 off *Molossops planirostris*, Monagas, 54 km SE Maturín (Hato de Bejco), 18 m, 3-11 Jun 1968.

This intranasal chigger of bats was described from 2 specimens off *Phyllostomus hastatus*, Bolívar, Venezuela. It was found commonly in the nasal passages of *Noctilio labialis* in Surinam (Brennan and Lukoschus, 1971) and is here recorded from Colombia: 1 larva off *P. hastatus*, Valle, Cali, 2 Aug 1967; 1 off *N. labialis*, Caqueta, Tres Esquinas, 24 May 1968; 1 off *N. labialis*, Caqueta, Los Alicangaros, 24 May 1968; C. J. Marinkelle.

Genus *Neoschoengastia* Ewing, 1929

Type species: *Schöngastia americana* Hirst, 1921

**Neoschoengastia americana* (Hirst)

Schöngastia americana Hirst, 1921, p. 37.

Six larvae off unidentified bird, Bolívar, 20 km W La Paragua (Hato San José), 300 m, 8 Apr 1967; 1 off "owl," same location, 6 Apr 1967; 4 off unidentified bird, Bolívar, 47 km ESE Caicara (Hato La Florida), 50 m, 4 May 1967; 29 off 4 *Zygodontomys brevicauda*, Bolívar, 44-45 km ESE Caicara (Hato La Florida), 43-45 m, 22 to 28 Apr 1967; 1 off *Sylvilagus floridanus*, Falcón, Peninsula de Paraguana, 15 km SSW Pueblo Nuevo (Moruy), 55 m, 15 Jul 1968.

N. americana was described from Texas off domestic chicken. It is commonly parasitic on both domestic and wild birds and known also from a few reptiles, lagomorphs, and rodents. The species, in its various forms, is widely distributed, particularly in the temperate to warmer climates of the world.

Genus *Nycterinastes* Brennan and Reed, 1973

Type species: *Nycterinastes primus* Brennan and Reed, 1973

Nycterinastes primus Brennan and Reed

Nycterinastes primus Brennan and Reed, 1973b, p. 709.

No records beyond those of the original description: off bats, *Desmodus rotundus*, *Lionycteris spurrelli*, *Glossophaga soricina*, *Anoura geoffroyi*, *Carollia perspicillata*, *Lonchorhina aurita*, *Pteronotus parnellii*, and *Anoura* sp. A, from Bolívar and Amazonas.

Nycterinastes secundus Brennan and Reed

Nycterinastes secundus Brennan and Reed, 1973b, p. 709.

Venezuela records are those of the original description: 21 larvae off 5 *Anoura geoffroyi* from Barinas, Bolívar, and Miranda.

Known also in Costa Rica: 2 larvae off *Anoura geoffroyi*, Cartago, Hacienda Moravia (Moravia de Chirripo), 2 Oct 1962, Casebeer and Arnold; 1 off *Lonchoptyllia robusta*, Alajuela, 13 mi N Arena das Grutas del Venado, 9 Apr 1963, Casebeer. These records from material collected under direction of Dr. Richard B. Loomis, California State University, Long Beach.

Genus *Odontacarus* Ewing, 1929

Type species: *Trombicula dentata* Ewing, 1925

Odontacarus (*O.*) *australis* (Ewing)

Trombicula australis Ewing, 1929, p. 10

Reed and Brennan (1975) record 12 larvae off 5 unidentified lizards, Zulia, 34 km NNE Paraguaipoa (Cojoro), 15 m, 19 Jun 1968.

Known previously only from the single type specimen off *Tropidurus peruvianus*, Lima, Peru.

Odontacarus (*O.*) *comosus comosus*
Reed and Brennan

Odontacarus (*O.*) *comosus comosus*, Reed and Brennan, 1975, p. 13

No records other than those of the type series and additional records listed with the original description:

1 larva off *Marmosa dryas*, 1 off *M. inpa-vida*, 1 off *Oryzomys albigularis*, 3 off 2 *O. minutus*, 2 off *Rhipidomys venustus*, 32 off 14 *Thomasomys hylophilus*, and 2 off unidentified bird, from Táchira.

Odontacarus (*O.*) *comosus novemsetus*
Reed and Brennan

Odontacarus (*O.*) *comosus novemsetus*, Reed and Brennan, 1975, p. 13

No records other than those of the original description: 1 larva off *Marmosa fuscata*, 1 off *Heteromys anomalous*, and 15 off *Oryzomys albigularis*, from Distrito Federal and Miranda.

Odontacarus (*O.*) *dienteslargus* Reed and Brennan

Odontacarus (*O.*) *dienteslargus*, Reed and Brennan, 1975, p. 15

No records other than those of the type series and additional records listed with the original description: 3 larvae off *Cryptotis thomasi*, 2 off *Oryzomys albigularis*, 23 off *Thomasomys hylophilus*, 4 off *T. laniger*, 1 off *Chilomys instans* and 2 off *Akodon bogotensis*, from Mérida and Táchira.

Odontacarus (O.) pugnus Reed and Brennan
Odontacarus (O.) pugnus, Reed and Brennan,
 1975, p. 15

No records other than those of the original description: 7 larvae off *Oryzomys minutus* and 3 off *Thomasomys laniger*, from Mérida.

Odontacarus (O.) schoenesetosus
 Reed and Brennan

Odontacarus (O.) schoenesetosus, Reed and
 Brennan, 1975, p. 17

No records other than those of the original description: 11 larvae off *Lonchorhina aurita*, 1 off *Artibeus jamaicensis*, 9 off *Thomasomys laniger*, 7 off *T. lugens* and 2 off *T. vestitus*, from Trujillo.

Odontacarus (O.) sunniana
 Reed and Brennan

Odontacarus (O.) sunniana, Reed and Bren-
 nan, 1975, p. 19

No records other than the type series and additional records listed with the original description: 1 larva off *Didelphis marsupialis*, 1 off *M. fuscata*, 1 off *Sciurus granatensis*, 2 off *O. albicularis*, 2 off *Sigmodon hispidus*, and 27 off *Proechimys semispinosus* from Aragua, Barinas, Falcón, Lara, and Miranda.

Odontacarus (O.) tiptoni Reed and Brennan

Odontacarus (O.) tiptoni, Reed and Brennan,
 1975, p. 20

No records other than those of the original description: 1 off *Marmosa dryas*, 1 off *Oryzomys albicularis*, 1 off *O. minutus*, 1 off *Thomasomys lugens*, and 17 off *T. vestitus*, from Trujillo.

Odontacarus (O.) tubercularis (Brennan)

Acomatacarus tubercularis Brennan, 1952, p. 146.

About 1200 larvae identified from 214 collections, also briefly recorded by Reed and Brennan (1975). Opossums: 4 *Monodelphis breviceaudata*, 1 *Marmosa* sp. A, 13 *M. fuscata*, 13 *M. robinsoni*, 10 *Didelphis marsupialis*. Bats: 1 *Saccolaryx bilineata*, 1 *Micronycteris microtis*, 1 *Carollia breviceauda*, 1 *Vampyrops helleri*, 1 *Vampyressa pusilla*. Lagomorphs: 1 *Sylvilagus floridanus*. Rodents: 1 *Sciurus granatensis*, 40 *Heteromys anomalus*, 40 *Oryzomys albicularis*, 3 *O. concolor*, 1 *O. fulvescens*, 2 *O. minutus*, 1 *Nectomys alfari*, 1 *Thomasomys lugens*, 3 *Akodon urichi*, 8 *Zygodontomys breviceauda*, 28 *Sigmodon hispidus*, 9 *Sigmomys alstoni*, 1 *Rattus norvegicus*, 1 *R. rattus*, 3 *Agouti paca*, 2 *Dasy-*

procta aguti, 22 *Proechimys semispinosus*, 1 *Mazana americana*.

Amazonas, 119-145 m, Oct 1967; Aragua, 1050-1100 m, Aug 1965 and Apr 1967; Bolívar, 43-298 m, Jun 1966 and Apr 1967; Carabobo, 25-1537 m, Mar 1966 and Nov 1967; Falcón, 25-1280 m, Oct and Nov 1965, Aug, Nov, and Dec 1967, and May 1968; Distrito Federal, 1415-2151 m, Jul to Dec 1965, Aug 1966, and May to Nov 1967; Guárico, 100-650 m, Sep and Oct 1966, and Jan, May, and Aug 1968; Lara, 1-900 m, Jul 1968; Miranda 1130-2124 m, Sep and Dec 1965, Aug to Oct 1966, May 1967, and May 1968; Monagas, 35-1270 m, Aug 1966, Jun and Jul 1967; Nueva Esparta, 38-100 m, Jan 1967; Sucre, 200-430 m, Jul and Aug 1967; Táchira, 2405-2420 m, Mar 1968; Trujillo, 90-2225, Oct 1965 and Jan 1966; Zulia, 37-1135 m, Mar to Jun 1968.

Described from Aragua, Venezuela, off *Heteromys anomalus*. Reported further by Brennan and Jones (1960) from Trinidad off *Proechimys guyanensis* and *Nectomys squamipes*; by Brennan (1967) from Patos Island, Venezuela, off *Rattus* sp.; by Brennan (1970a) and Brennan and Lukoschus (1971) from Surinam off *Dasyprocta* sp., *Philander opossum*, *Proechimys guyanensis*, and *Nectomys squamipes*.

Recorded by Brennan (1959) as *Odontacarus cayolargoensis* from Key Largo, Florida, off *Sigmodon hispidus*; from Cameron Co., Texas, by Loomis and Crossley (1963) off *Liomys irroratus*, *Peromyscus leucopus*, and *Sigmodon hispidus*; by Loomis (1969) from Mexico off *Heteromys gauceri* (Campeche) and *Ototylomys phyllotis*, *Peromyscus yucatanicus*, *Sigmodon hispidus*, and *Heteromys gauceri* (Yucatán). Also recorded as *Odontacarus fieldi* off various birds and mammals in Panamá by Brennan and Jones (1961b) and Brennan and Yunker (1966).

Odontacarus (O.) tuberculohirsutus
 Reed and Brennan

Odontacarus (O.) tuberculohirsutus, Reed and
 Brennan, 1975, p. 22

No records other than those of the type series and additional records listed with the original description: 10 larvae off *Oryzomys minutus*, 41 off *Thomasomys laniger* and 3 off *Akodon bogotensis*, from Mérida.

Odontacarus (O.) vanderhammeni
 Reed and Brennan

Odontacarus (O.) vanderhammeni, Reed and
 Brennan, 1975, p. 24

No records other than those of the original

description: 1 larva off *Marmosa dryas*, 1 off *Oryzomys albigularis*, 3 off *O. minutus*, and 2 off *Thomomys lugens*, from Mérida and Trujillo.

Odontacarus (O.) vergrandi Reed and Brennan

Odontacarus (O.) vergrandi, Reed and Brennan, 1975, p. 25

No records other than those of the original description: 4 larvae off *Lonchorhina aurita*, 4 off *Oryzomys minutus*, and 11 off *Thomomys laniger*, from Mérida and Trujillo.

Genus *Parasecia* Loomis, 1966

Type species: *Trombicula gurneyi* Ewing, 1937

**Parasecia aitkeni* Brennan and Jones

Trombicula aitkeni Brennan and Jones, 1960, p. 510.

Nearly 700 larvae identified from 110 collections: 41 *Marmosa robinsoni*, 1 *Saccopteryx bilineata*, 1 *Artibeus lituratus*, 4 *Heteromys* sp. A, 1 *Histiopus* sp. A, 5 *Rhipidomys venezuelae*, 2 *Sigmodon hispidus*, 1 *Sigmodon alstoni*, 1 *Dasyprocta variegata*, 1 *Echimyus armatus*, 1 *E. semicilliosus*, 49 *Proechimys semispinosus*, 1 *Agouti paca*.

Apure, 24 m, Jan and Feb 1968; Barinas, Dec 1967; Bolívar, 800 m, May 1968; Falcón, 470-615 m, May to Aug 1968; Distrito Federal, 2101 m, Aug 1965; Lara, 518 m, Jul 1968; Zulia, 37-273 m, Feb to Jun 1968.

Described from Trinidad off *Nectomys squamipes* and later recorded off *Marmosa* sp. from the same island (Brennan, 1969a); also reported from Bolivia off *Oryzomys capito* by Brennan (1970b) and by Brennan and Lukoschus (1971) off *Philander opossum*, Surinam.

**Parasecia longicalcar* Brennan and Jones

Trombicula longicalcar Brennan and Jones 1960, p. 517.

Three larvae off 3 *Saccopteryx bilineata*, Falcón, 19 km NW Urama, 25 m, 8 Nov 1965; 1 off *Rhipidomys venezuelae* and 9 off 3 *Zygodontomys brevicauda*, Falcón, 80 km NW Carora (Hacienda Socopito), 470 m, 20, 22, and 28 May 1968; 3 off *Proechimys semispinosus*, Miranda, 6 km SSE Río Chico (Puerto Tuy), 1 m, 15 Nov 1966; 7 off *P. semispinosus*, Yaracuy, 19 km NW Urama, 25 m, 12 Nov 1965.

Holotype off *Amazona amazonica* Trinidad. Recorded also from a variety of tree-frequenting hosts including parrots, snakes, opossums, bats, squirrels, and porcupines in Trinidad,

British Guiana, and Panamá (Brennan and Jones, 1960; Brennan and Yunker, 1966; Brennan, 1967 and 1969a).

**Parasecia manuei* Brennan and Jones

Trombicula manuei Brennan and Jones, 1960, p. 520.

Over 200 larvae identified from 38 collections. Two unidentified birds. Opossum: 1 *Philander opossum*. Bats: 1 *Mimon crenulatum*, 2 *Carollia perspicillata*, and 2 *Neoplatymops matogrossensis*. Rodents: 8 *Heteromys anomalus*, 1 *Rhipidomys leucodactylus*, 3 *Akodon urichi*, 6 *Zygodontomys brevicauda*, 2 *Sigmodon alstoni*, 1 *Agouti paca*, 1 *Proechimys guyannensis*, 9 *P. semispinosus*, and 1 *Echimyus armatus*.

Amazonas, 135-195 m, Mar, May, Sep, and Oct 1967; Apure, 24 m, Jan 1968; Bolívar, 851 m, Apr and May 1968; Carabobo, 25 m, 11 to 22 Mar 1968; Monagas, 1180 m, Jun 1967; Sucre, 0-575 m, Dec 1966, Jul and Aug 1967; Zulia, 37 and 80 m, Mar and Jun 1968.

Described from Trinidad off *Zygodontomys brevicauda*. Other records (Brennan and Jones, 1960 and 1961a; Brennan and Yunker, 1966; Brennan, 1968a; Brennan and Lukoschus, 1971) from numerous reptiles, birds, marsupials, and rodents; Trinidad, Peru, Panamá, Colombia, and Surinam.

**Parasecia psittaci* (Floch and Abonnenc)

Trombicula psittaci Floch and Abonnenc, 1949, p. 1.

Six larvae off 2 unidentified birds, Bolívar 20 km W La Paragua (Hato San José), 300 m, 3 and 4 April 1967.

Described off "perroquet vert," French Guiana. Other records: Brennan and Jones (1960), off *Amazona amazonica*, Trinidad; Fauran (1960), off toucan (*Selenidera* sp.), French Guiana.

**Parasecia soucouyanti* (Brennan and Yunker)

Trombicula soucouyanti Brennan and Yunker, 1966, p. 256.

Two larvae off *Rhipidomys venustus*, Distrito Federal, 5 km NNE Caracas (Pico Avila), 2135 m, 8 Sep 1965.

In addition, known only from the type series off *Sturnira ludovici* and other material off *Myotis* sp., Panamá.

Parasecia sp. A

Thirty-three off 4 *Tadarida gracilis*, Apure, 38 km NNW Puerto Páez, Río Cinaruco, 76 m,

26 to 27 Jan 1966; 2 off 2 *T. gracilis*, Apure, 1 km W Puerto Páez (Cerro de Murciélagos), 76 m, 20 and 21 Jan 1966; 51 off 6 *T. gracilis*, Amazonas, 56 km NNW Esmeralda (Belén), 150 m, 13 Jan 1967; 1 off *T. gracilis*, Bolívar, 50 km SE Manteco, (Río Supamo), 150 m, 8 Apr 1966; 45 off 6 *Neoplattymops mattogrossensis*, Amazonas, 33 km S Puerto Ayacucho (El Raudal), 195 m, 4 and 10 Oct 1967; 1 off *Molossus ater*, Monagas, 5 km NW Caripe (San Agustín), 1180 m, 27 Jun 1967; 6 off *Proechimys semispinosus*, Amazonas, 84 km SSE Esmeralda (Boca Mavaca), 138 m, 20 Mar 1967.

Parasecia sp. C

Seventeen larvae off 2 *Proechimys semispinosus*, Barinas, Altamira, 794 m, 5 Jan 1968.

Parasecia sp. D

Five larvae off *Lonchophylla robusta*, Barinas, 7 km NNE Altamira (Água Fria), 1070 m, 25 Dec 1967; 5 off *L. robusta*, Barinas, Altamira, 794 m, 20 Dec 1967.

Parasecia sp. E

Eight larvae off 2 *Tadarida gracilis*, Apure, 1 km W Puerto Páez (Cerro de Murciélagos), 76 m, 20 and 21 Jan 1966; 6 off *T. gracilis*, Apure, 38 km NNW Puerto Páez (Río Cinaruco), 76 m, 27 Jan 1966.

Parasecia sp. F

Ten larvae off 1 *Sturnira erythromos*, 12 km SE La Azulita (La Carborera), 2150 m, 21 Apr 1966.

Parasecia sp. G

Eight larvae off *Sturnira erythromos* and 2 off *Artibeus harti*, Distrito Federal, 5 km NNE Caracas (Pico Avila), 2092 and 2150 m, 17 and 20 Aug 1965; 10 off *S. erythromos*, Carabobo, 4 km NW Montalbán (La Copa), 1537 m, 30 Nov 1967.

Parasecia sp. H

Two larvae off unidentified lizard, Bolívar, 20 km W La Paragua (Hato San José), 306 m, 22 Mar 1967; 1 off *Sigmomys alstoni*, Bolívar, 46 km NE Icabarú, 800 m, 15 May 1968.

Parasecia sp. I

Five larvae off 3 *Tadarida gracilis*, Apure, 1 km W Puerto Páez (Cerro de Murciélagos),

76 m, 20 Jan 1966; 11 off 1 *Neoplattymops mattogrossensis*, Bolívar, 28 km SE El Manteco (Los Patos), 150 m, 11 Apr 1966.

Genus *Perissopalla* Brennan and White, 1960

Type species: *Perissopalla flagellisetula* Brennan and White, 1960

**Perissopalla precaria* Brennan and Dalmat

Euschöngastia precaria Brennan and Dalmat, 1960, p. 190.

About 400 larvae identified from 88 collections. One *Anoura* sp. A, 1 *Artibeus lituratus*, 27 *Carollia brevicauda*, 40 *C. perspicillata*, 1 *Desmodus rotundus*, 1 *Glossophaga longirostris*, 3 *G. soricina*, 1 *Leptonycteris curasoae*, 1 *Micronycteris microtis*, 1 *Noctilio labialis*, 5 *Peropteryx kappleri*, 2 *P. macrotis*, 1 *Phyllostomus discolor*, 2 *Sturnira lilium*; 1 *Proechimys guyanensis*.

Amazonas, 155 m, Jul 1967; Apure, 24 m, Jan 1968; Barinas, 611-794 m, Dec 1967 and Jan 1968; Bolívar, 45-851 m, Jun 1966, Apr 1967 and 1968; Carabobo, 598-1537 m, Nov 1967; Distrito Federal, 1415-1465 m, Jul and Aug 1965; Falcón, 120-1260 m, Nov 1967, May and Jul 1968; Miranda, 1-1160 m, Jan and Oct 1966; Monagas, 854 m, Jul 1967; Sucre, 1 m, Dec 1966; Yaracuy, 400 m, Dec 1967; Zulia, 24-270 m, Mar and Apr 1968.

This bat chigger, described from Guatemala off *Desmodus rotundus* and unidentified bat, was recorded by Brennan and Yunker (1966) off *Micronycteris megalotis*, Panamá, and by Loomis (1969) off *Glossophaga soricina*, Mexico (Quintana Roo).

Perissopalla tanycera Brennan

Perissopalla tanycera Brennan, 1969c, p. 430.

Eighteen larvae off 3 *Peropteryx macrotis* and 2 off *P. trinitatis*, Bolívar, 85 km SSE El Dorado, 374 m, 29 May and 23 Jun 1966; 1 off *Chiroderma trinitatum*, Bolívar, 59 km SE El Dorado (El Manaco), 150 m, 23 Jun 1966.

No other records since described off *Peropteryx* sp. from Bolívar, Venezuela. Brennan (1970b) lists specimens "near *P. tanycera*" off *Peropteryx macrotis*, Beni, Bolivia, and *Saccopteryx bilineata*, Rondônia, Brazil.

Perissopalla sp. A

Four larvae off *Carollia brevicauda*, Aragua, 13 km NW Maraëay (Rancho Grande Biological Station), 1100 m, 7 Aug 1965; 16 off 5 *C.*

brevicauda, Carabobo, 4 km NW Montalbán (La Copa), 1737 m, 26 to 30 Nov 1967; 53 off 14 *C. brevicauda*, Barinas, Altamira and 5 km SW Altamira (La Soledad and La Bellaca), 794 m, 13 and 14 December 1967; 12 off 2 *C. brevicauda*, 7 km NNE Altamira (Agua Fria), 1070 m, 25 Dec 1967; 2 off *C. brevicauda* and 1 off *Sturnira lilium*, 2 km SW Altamira (La Vega del Río Santo), 620 m, 27 and 28 Dec 1967; 5 off *Peropteryx kappleri*, Falcón, 12 km ENE Mirimire (La Pastora), 220 m, 14 Nov 1967; 1 off *P. macrotis*, Yaracuy, 20 km NW San Felipe (Minas de Aroa), 395 m, 12 Dec 1967; 19 off 3 *C. brevicauda*, Falcón, 84 km NW Carora (Cerro Socopo), 1260 m, 13 and 17 May, 1968.

Perissopalla sp. B

Three larvae off *Carollia brevicauda* and 3 off *C. perspicillata*, Miranda, 5 km NNW Guarenas (Curupao), 1160 m, 5 and 8 Oct 1966; 32 off 6 *Peropteryx kappleri* and 7 off *C. perspicillata*, Monagas, 3 km SW Caripe (Hacienda Tucucito), 854 m, 11 Jul 1967; 1 off *C. perspicillata*, Sucre, 26 km ESE Carúpano (Manacal), 300 m, 19 Jul 1967; 2 off *C. brevicauda*, Carabobo, 4 km NM Montalbán (La Copa), 1537 m, 27 Nov 1967.

Perissopalla sp. C

Six larvae off *Eptesicus fuscus*, Distrito Federal, 4 km NNW Caracas (Los Venados), 1498 m, 31 Jul 1965.

Perissopalla sp. D

Seven larvae off *Glossophaga soricina*, Bolívar, 56 km SE El Dorado (El Manaco), 150 m, 16 Jun 1966.

Perissopalla sp. E

Eight larvae off *Carollia perspicillata*, Bolívar, 45 km NE Icabarú (Santa Lucía de Surukún), 851 m, 30 Apr 1968; 4 off *C. perspicillata*, Apure, 29 km SSW Santo Domingo (Nulita), 24 m, 28 Jan 1968.

Perissopalla sp. F

One larva off *Carollia perspicillata*, Miranda, 1 km S Río Chico, 1 m, 26 Oct 1966; 1 off *Anoura geoffroyi*, Bolívar, 59 km SE El Dorado (El Manaco), 150 m, 23 Jun 1966.

Genus *Peltoculus* Brennan, 1972

Type species: Trombicula almae Brennan, 1968.

Peltoculus bobbiannae Brennan

Peltoculus bobbiannae Brennan, 1972a, p. 16.

Described from 5 larvae off *Thomasomys hylophilus* and *Oryzomys minutus*, Táchira, about 41 km SW San Cristóbal (Buena Vista), 2350-2430 m.

Additional records from the same general locality are: 2 larvae off *Caenolestes obscurus*, 8 Mar 1968; 16 off 2 *Cryptotis thomasi*, 8 and 15 Mar; 4 off 2 *Akodon bogotensis*, 17 and 18 Mar; 5 off 3 *Oryzomys albigularis*, 16-21 Mar; 14 off 7 *O. minutus*, 2-17 Mar; 15 off 10 *Thomasomys hylophilus*, 1-24 Mar; 20 off 2 *Chilomys instans*, 9 and 13 Mar; 2 off *Rhipidomys venustus*, 9 Mar.

Genus *Phalcochila* Brennan and Reed, 1973

Type species: Phalcochila antica Brennan and Reed, 1973.

Phalcochila antica Brennan and Reed

Phalcochila antica Brennan and Reed, 1973b, p. 708.

Known only from the original description: 7 larvae off *Pteronotus psilotis*, Bolívar.

Phalcochila postica Brennan and Reed

Phalcochila postica Brennan and Reed, 1973b, p. 709.

Known only from the holotype off *Pteronotus psilotis*, Bolívar.

Genus *Polylopadium* Brennan and Jones, 1961

Type species: Polylopadium kramisi Brennan and Jones, 1961

**Polylopadium aspasium* Brennan

Polylopadium aspasium Brennan, 1969b, p. 868.

One larva off *Proechimys* sp., Amazonas, 106 km SW Esmeralda, (SW bank of Casiquiare Canal, 1 km from Capibara), 130 m, 10 Jun 1967.

Described from 15 larvae off 3 *Oryzomys capito*, Amapá and Pará, Brazil; also recorded from 3 larvae off 2 *Proechimys* sp., Rondônia, Brazil (Brennan, 1970b).

Polylopadium chaetolecanium

Brennan and Reed

Polylopadium chaetolecanium Brennan and Reed, 1972b, p. 461.

No records beyond those of the original description: 4 larvae off *Proechimys guyanensis* and *Heteromys anomalus*, Sucre.

Polyopadium tricholecanium Brennan and Reed

Polyopadium tricholecanium Brennan and Reed, 1972b, p. 461.

Known only from the single specimen of the original description: off *Proechimys* sp., Falcón.

Genus *Pseudoschoengastia* Lipovsky, 1951

Type species: *Pseudoschoengastia hungerfordi* Lipovsky, 1951

**Pseudoschoengastia bulbifera* Brennan

Pseudoschoengastia bulbifera Brennan, 1960, p. 483.

Nine larvae off *Proechimys semispinosus*, 1 off *Nectomys squamipes*, and 4 off *Heteromys anomalus*, Zulia, 21 km SW Machiques (Kasmera), 270 m, 17 to 22 Apr 1968; 3 off *Sigmodon hispidus*, 19 km WSW Machiques (Novito), 27 Apr 1968; C. E. Yunker.

First records for Venezuela and first bona fide record of genus *Pseudoschoengastia* for South America.

Genus *Quadrasetta* Brennan, 1970

Type species: *Euschoengastia pazca* Brennan and Jones, 1964

**Quadrasetta antillarum* (Brennan)

Euschoengastia antillarum Brennan, 1967, p. 150.

Nine larvae off *Marmosa robinsoni*, Falcón, Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo (Moruy), 90 m, 13 Jul 1968; 15 off 6 *M. robinsoni*, Guárico, 35 km SSW San Juan de Los Morros (Hato Las Palmitas), 181 m, 3-6 Jan 1968; 54 off 11 *Sylvilagus floridanus*, Falcón, Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo (Moruy), 45-55 m, 13-17 Jul 1968; 26 off 5 *Zygodontomys brevicauda*, Guárico, 35 km SSW San Juan de Los Morros (Hato Las Palmitas), 181 m, 3-6 Jan 1968; 9 off 3 *Z. brevicauda*, Bolívar, 44-47 km ESE Ciacara (Hato La Florida), 45-90 m, 28 Apr 1967; 5 off 2 *Proechimys semispinosus*, Guárico, 35 km SSW San Juan de Los Morros (Hato Las Palmitas), 181 m, 5 and 6 Jan 1968.

Described from 7 larvae off *Sylvilagus floridanus*, Curaçao, Mar 1949; 7 more specimens from same host species and locality, 1963.

**Quadrasetta flochi* Brennan and Jones

Euschoengastia flochi Brennan and Jones, 1960, p. 503.

Nearly 200 larvae identified from 8 *Mono-*

delphis brevicaudata, 3 *Marmosa robinsoni*, 6 *Heteromys anomalus*, 5 *Oryzomys albigularis*, 1 *O. capito*, 1 *Akodon urichi*, 16 *Zygodontomys brevicauda*, 1 *Sigmodon alstoni*, 1 *Sigmodon hispidus*, and 4 *Proechimys semispinosus*.

Bolívar, 150 m, 25 Jun 1966; Amazonas, 135 m, 3-5 Nov 1966; Falcón, 25-1257 m, 19 Oct to 4 Nov 1965; 16 Nov 1967 and 15 May 1968; Distrito Federal, 398 m, 19 Aug 1966; Guárico, 181 m, 5-6 Jan 1968; Miranda, 1130-1176 m, 14 May 1967, 14 and 15 May 1968; Monagas, 18-1340 m, 29 Jun to 8 Jul 1967, 4 and 5 Jun 1968; Sucre, 190-423 m, 21 Jul to 1 Aug 1967; Trujillo, 90 m, 21 Aug to 20 Oct 1965; Zulia, 272 m, 20 Apr 1968.

Quadrasetta flochi was described from Trinidad, the type series off *Rattus rattus*, and other material off birds, *Dendrocicla fuliginosa*, *Pitangus sulfuratus*; and mammals, *Didelphis marsupialis*, *Akodon urichi*, *Heteromys anomalus*, *Nectomys squamipes*, *Oryzomys laticeps*, *Zygodontomys brevicauda*, and unidentified rat; other records: off *Thomasomys fuscatus*, Colombia (Brennan 1968a); and off *Proechimys guyanensis*, Surinam (Brennan and Lukoschus, 1971).

Quadrasetta sp. A

Two larvae off 2 *Oryzomys albigularis*, Táchira, 41 km SW San Cristóbal (Buena Vista), 2400 m, 18 and 24 Mar 1968; 1 off *O. capito*, Yaracuy, 20 km NW San Felipe (Minas de Aroa), 404 m, 8 Dec 1967; 9 off 4 *O. minutus*, 1 off *O. fulvescens*, 1 off *Thomasomys hylophilus* and 40 off 6 *Akodon bogotensis*, Táchira, 41 km SW San Cristóbal (Buena Vista), 2370-2420 m, 2-17 Mar 1968.

Quadrasetta sp. B

Eighteen larvae off 3 *Akodon urichi* and 9 off *Proechimys semispinosus*, Falcón, 84 km NW Carora (Cerro Socopo), 1262 m, 13 and 14 May 1968.

Quadrasetta sp. C

Twenty larvae off 2 *Monodelphis brevicaudata*, Falcón; 14 km ENE Mirimire (La Pastora), 122-160 m, 13 and 19 Nov 1967; 8 off *M. brevicaudata*, Sucre, 26 km ESE Carúpano (Manacal), 417 m, 22 Jul 1967; 1 off *M. brevicaudata*, Trujillo, 23 km NNW Valera (Río Motatan), 90 m, 5 Sep 1965; 9 off 2 *M. brevicaudata*, Trujillo, 19 km N Valera (Agua Viva), 164 m, 5-8 Sep 1965; 3 off *M. brevicaudata*, Guárico, 15 km NW Altigracia (Guatopo National Park), 680 m, 24 Sep 1966; 10 off 2 *M. brevicaudata*, Yaracuy, 20 km NW San Felipe

(Minas de Aroa), 403-425 m, 7 and 8 Dec 1967; 1 off *Marmosa robinsoni*, Falcón, Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo (Cerro Santa Ana), 520 m, 25 Jul 1968; 2 off *Didelphis marsupialis*, Falcón, 14 km ENE Mirimire (La Pastora), 130 m, 20 Nov 1967; 26 off 3 *D. marsupialis*, Miranda, 3 km NE Caracas (Quebrada Chacaito), 1130-1160 m, 14 and 15 May 1967; 1 off *Artibeus lituratus*, Trujillo, 25 km NW Valera (Agua Santa), 90 m, 21 Aug 1965; 2 off *Heteromys anomalous*, Falcón, 14 km ENE Mirimire (La Pastora), 150 m, 13 Nov 1967; 8 off *H. anomalous*, Miranda, 3 km NE Caracas (Quebrada Chacaito), 1130 m, 18 May 1967; 12 off 2 *H. anomalous*, Sucre, 26 km ESE Carúpano (Manacal), 425-575 m, 20 and 27 Jul 1967; 1 off *Oryzomys albigularis*, Miranda, 5 km NNE Caracas (Pico Avila), 2104 m, 23 Aug 1965; 1 off *O. albigularis*, Distrito Federal, 31 km WSW Caracas (Alto No León), 23 Dec 1965; 25 off 5 *O. albigularis*, Miranda, 3 km NE Caracas (Quebrada Chacaito), 1130-1175 m, 14-18 May 1967; 1 off *Rhipidomys venezuelae*, Distrito Federal, 4 km NNW Caracas (Los Venados) 1470 m, 29 Jul 1965; 1 off *Zygodontomys brevicauda*, Sucre, 21 km E Cumaná, 20 m, 16 Dec 1966; 1 off *Z. brevicauda*, Nueva Esparta, 3 km NE La Asunción, 420 m, 28 Jan 1967; 1 off *Zygodontomys brevicauda*, Falcón, 14 km ENE Mirimire (La Pastora), 90 m, 15 Nov 1967; 4 off 2 *Proechimys guyanensis*, Bolívar, 44 km ESE Caicara (Hato La Florida), 45 m, 25 Apr 1967; 1 off *P. semispinosus*, Sucre, 25 km ESE Carúpano (Manacal), 190 m, 19 Jul 1967; 1 off *P. semispinosus*, Falcón, 19 km NW Urama, 19 Oct 1965; 3 off 2 *P. semispinosus*, Zulia, 21 km SW Machichos (Kasmera), 270 m, 20 Apr 1968; 1 off *Myotis larensis*, Falcón, Capatárida, 40 m, 27 Jun 1968.

Quadrasetta sp. D

Six larvae off *Marmosa robinsoni*, Falcón, Peninsula de Paraguaná, 15 km SSW Pueblo Nuevo (Cerro Santa Ana), 520 m, 25 Jul 1968.

Genus *Rhinibius* Brennan and Yunker, 1969

Type species: Rhinibius tamandua Brennan and Yunker, 1969.

Rhinibius tamandua Brennan and Yunker

Rhinibius tamandua Brennan and Yunker, 1969, p. 304.

This intranasal species was described from the type series off *Tamandua tetradactyla*, Pará, Brazil, and 1 larva off *Rhipidomys* sp., Bolívar, Venezuela.

A new record is: 9 larvae off *Tamandua longicaudata*, Monagas, 54 km S Maturín (Hato de Bejuco), 18 m, 6 Jun 1968.

Genus *Speleocola* Lipovsky, 1952

Type species: Speleocola tadaridae Lipovsky, 1952.

Speleocola secunda Brennan and Jones

Speleocola secunda Brennan and Jones, 1960, p. 509.

One larva off *Monodelphis brevicaudata*, Yaracuy, 20 km NW San Felipe (Minas de Aroa), 425 m, 7 Dec 1967; 5 off *Phyllostomus hastatus*, Barinas, Altamira, 794 m, 21 Dec 1967; 1 off *Artibeus jamaicensis*, Zulia, 42 km WNW Encontrados (El Rosario), 24 m, 4 Mar 1968; 1 off *Desmodus rotundus*, Trujillo, 23 km NW Valera (Agua Santa), 90 m, 6 Sep 1965; 5 off *Molossus aztecus*, Bolívar, 47 km ESE Caicara (Hato La Florida), 50 m, 19 Apr 1967; 1 off *Rhipidomys venezuelae*, Falcón, 80 km NW Carora (Río Socopo), 470 m, 22 May 1968; 12 off *R. fulviventris*, Monagas, 5 km NW Caripe (San Agustín), 1170 m, 26 Jun 1967; 1 off *Rattus rattus*, Trujillo, 30 km NW Valera (El Dividive), 90 m, 20 Oct 1965.

S. secunda was described from Trinidad, off *Micronycteris hirsuta*. Other records from: *Coendou rothschildi*, Panamá (Brennan and Yunker, 1966); *Peropteryx macrotis*, Isla Margarita (Brennan, 1967); *Peromyscus yucatanicus*, Yucatan Peninsula (Loomis, 1969, Loomis and Webb, 1969); *Phyllostomus discolor*, *Saccopteryx bilineata*, and *Molossus bondae*, Costa Rica; *Molossus sinaloae*, *Glossophaga soricina*, *Nyctomys sumichrasti*, and *S. bilineata*, Nicaragua; *Micronycteris megalotis* and *Desmodus rotundus*, Trinidad (Loomis and Webb, 1969); *Carollia perspicillata* and *S. bilineata*, Surinam (Brennan and Lukoschus, 1971).

Speleocola sp. A

Three larvae off *Carollia perspicillata*, Monagas, 3 km SW Caripe, 854 m, 11 Jul 1967; 36 off 6 *Peropteryx kappleri* same locality and date.

Genus *Vanidicus* Brennan and Jones, 1961

Type species: Vanidicus tricosus Brennan and Jones, 1961.

Vanidicus chalepus Brennan

Vanidicus chalepus Brennan, 1973, p. 107.

Known only from the type series off *Ory-*

zomys albigularis, Mérida, and other specimens off *Heteromys anomalus*, Falcón, and *Monodelphis brevicaudata*, Yaracuy.

Vanidicus jofoستي Brennan

Vanidicus jofoستي Brennan, 1973, p. 109.

Known only from the type series off *Proechimys guyannensis*, Monagas, and additional material off *Heteromys anomalus*, *Oryzomys albigularis*, and *P. guyannensis*, Miranda, off *P. guyannensis*, Bolívar, and *O. albigularis*, Mérida.

Genus *Wagenaaria* Brennan, 1967

Type species: *Wagenaaria similis* Brennan, 1967

Wagenaaria similis Brennan

Wagenaaria similis Brennan, 1967, p. 148.

Reed and Brennan (1974) record 1 larva off *Pteronotus daviji*, Yaracuy, 20 km NW San Felipe (Minas de Aroa), 395 m, 12 Dec 1967; and 1 off *P. parnellii*, Sucre, 12 km NE Güiría (Ensenada Cuaranta), 90 m, 17 Jun 1967.

The only other record of this bat chigger since described from 23 larvae off 3 *Mormoops megalophylla*, Curaçao, is that of Loomis (1969): 3 larvae off *Pteronotus daviji*, Campeche, Mexico.

Genus *Whartonia* Ewing, 1944

Type species: *Hannemania nudosetosa* Wharton, 1938

Whartonia (Asolentria) guerrerensis Hoffmann

Whartonia guerrerensis Hoffmann, 1960, p. 5.

Reed and Brennan (1974) record 2 larvae off *Mormoops megalophylla*, Sucre, 9 km NE Güiría (Ensenada Cuaranta), 1 m, 5 Jun 1967; and 9 off 3 *M. megalophylla*, 10 km NE Güiría (Río Salado), 90 m, 7 Jun 1967.

Described off *Mormoops megalophylla*, Guerrero, México, and later recorded by Brennan and Jones (1960) as *Whartonia trinidadensis*, off *M. megalophylla*, Trinidad; other records; of *Erophylla sezekornia*, Bahamas *Peropteryx macrotis*, Isla Margarita; *M. megalophylla*, Aruba and Curaçao (Brennan, 1967); off *M. megalophylla*, Campeche, México (Loomis, 1969).

Whartonia (W.) nudosetosa Wharton

Hannemania nudosetosa Wharton, 1938, p. 142.

About 300 larvae identified from 89 bats, summarily recorded by Reed and Brennan (1974): 6 *Peropteryx kappleri*, 1 *Noctilio labialis*, 1 *Chrotopterus auritus*, 1 *Glossophaga longirostris*, 20 *G. soricina*, 9 *Lionycteris spur-*

relli, 4 *Anoura caudifera*, 2 *A. geoffroyi*, 2 *Anoura* sp. A., 11 *Carollia brevicauda*, 23 *C. perspicillata*, 2 *Sturnira lilium*, 1 *Vampyrops aurarius*, 1 *Chiroderma villosum*, 1 *Artibeus jamaicensis*, 1 *Ametrida centurio*, 3 *Desmodus rotundus*.

Amazonas, 135-1140 m, 2 Feb, 7-27 Jul, and 6 Sep to Oct 1967; Apure, 24-76 m, 17 Jan 1966 and 21-26 Jan 1968; Barinas, 609-1070 m, 13 Dec 1967 to 4 Jan 1968; Bolívar, 50-1165 m, 7 Apr to 23 Jun 1966, 7 Apr 1967, and 30 Apr 1968; Carabobo, 900 m, 23 Nov 1967; Distrito Federal, 350 m, 21 Aug 1966; Falcón, 60-230 m, 14-25 Nov 1967; Mérida, 2190 m, 21 Apr 1966; Miranda, 90 m, 30 Dec 1965; Zulia, 37 and 1135 m, 27 Mar to 7 May 1968.

Described off *Artibeus jamaicensis* and *Peropteryx canina*, Yucatán. Other records from: *Nycteris borealis* and unidentified bats, Puebla, Mexico (Hoffman, 1949); leaf-nosed bat, Jamaica (Brennan, 1953); *Desmodus rotundus*, Trinidad (Brennan and Jones, 1960); *Carollia perspicillata*, Guatemala (Brennan and Dahmat, 1960); *C. perspicillata*, Trinidad (Brennan, 1967); *C. perspicillata*, Quintana Roo; *Artibeus jamaicensis*, *D. rotundus* and *Mimon cozumelae*, Yucatan (Loomis, 1969).

Whartonia (W.) angulascuta Reed and Brennan

Whartonia (W.) angulascuta Reed and Brennan 1974, p. 35

No records other than those of the original description: 7 larvae off *Chrotopterus auritus*, 1 off *Carollia brevicauda*, 5 off *C. perspicillata* and 2 off *Diphylla ecaudata*, from Monagas.

Genus A, sp. A

Seven larvae off *Marmosa robinsoni*, Falcón, Peninsula de Paraguaná, 15 km, SSW Pueblo Nuevo (Cerro Santa Ana), 550 m, 30 Jul 1968.

This taxon has affinities with *Euschoengastoides* Loomis (1954), of which it may be a subgenus.

Euschoengastia sensu lato *aemulata* Brennan and Jones

Euschoengastia aemulata Brennan and Jones, 1964, p. 307.

Recorded by Brennan and Jones (1964) from Venezuela: 8 larvae off bat, *Anoura caudata*, Aragua. No additional records.

**Euschoengastia* sensu lato *megastyrax* Brennan and Jones

Euschoengastia megastyrax Brennan and Jones, 1960, p. 506.

Four larvae off *Phyllostomus discolor*, Amazonas, 108 km SSE Esmeralda (Río Mavaca), 140 m, 14 Apr 1967; 6 off *P. discolor*, Miranda, Biringo, 60 m, 23 Jan 1968; 10 off *Trachops cirrhosus*, Amazonas, 84 km SSE Esmeralda (Boca Mavaca), 185 m, 20 Feb 1966; 9 off *Carollia perspicillata*, Barinas, 7 km NNE Altamira (Agu Fria), 1070 m, 25 Dec 1967; 1 off *Desmodus rotundus*, Apure, 29 km SSW Santo Domingo (Nulita), 24 m, 31 Jan 1968.

This bat chigger, described off *Desmodus rotundus*, Trinidad, has also been recorded (possibly a subspecies) from Panamá off *D. rotundus*, *C. perspicillata* and opossum, *Didelphis marsupialis*, by Brennan and Yunker (1966).

**Schoengastia* sensu lato *guyanensis* Floch and Abonnenc

Schoengastia guyanensis Floch and Abonnenc, 1941, p. 13.

One larva off *Nectomys squamipes*, Bolívar, 53 km ESE Caicara (Hato La Florida), 56 m, 6 May 1967; 18 off 2 *Sigmodontomys alstoni*, Bolívar 46 km NE Icaburu, 800 m, 12 May 1968; 4 off *S. alstoni*, 44 km ESE Caicara (Hato La Florida), 45 m, 2 May 1968.

Known also from French Guiana whence it was described off domestic dog and man, later recorded by Fauran (1959, 1960) off *Myoprocta acouchy*; Boshell and Kerr (1942) described this species as *Neoschoengastia nasuae* off *Nasua condaca*, Colombia; other Colombian records: 15 larvae off *Proechimys* sp., Meta, San Juan de Arama (Los Micos), 1300 ft., 23 Apr 1957; 9 off *Nasuella olivacea*, Meta, Restrepo, date not available.

**Trombicula* sensu lato *dunni* Ewing

Trombicula dunni Ewing, 1931, p. 12.

Five larvae off 2 *Holochilus brasiliensis*, 1 off *Oryzomys concolor*, 9 off *Philander opossum*, Bolívar, 20 km W La Paragua (Hato San José), 297-324 m, 27 Feb to 22 Mar 1967; 14 off 6 *Sigmodontomys alstoni*, Bolívar, 46 km NE Icaburu, 800 m, 15 May 1968; 1 off *Marmosa fuscata*, Monagas, 5 km NW Caripe (San Agustín), 1335 m, 6 Jun 1967; 2 off *S. alstoni*, Sucre, 26 km ESE Carúpano (Manacal), 413 m, 1 Aug 1967; 2 off *O. fulvescens*, Táchira, 41 km SW San Cristóbal (Buena Vista), 2398 m, 5 Mar 1968; 6 off *Sigmodon hispidus*, Carabobo, 5 km SE Montalbán (Sabana Aguirre), 562 m, 4 Nov 1967; 13 off 4 *S. hispidus*, 4 off *Proechimys semispinosus*, 2 off *Sciurus granatensis*, Barinas, Altamira, 600-794 m, 18 Dec 1967 to 8 Jan 1968; 3 off 3 *P. semispinosus*, Apure, 29 km SSW

Santo Domingo (Nulita), 24 m, 26 Jan to 6 Feb 1968; 1 off *Agouti paca*, Zulia, 60 km WNW Encontrados (Boca del Río de Oro), 73 m, 18 Mar 1968.

Described from the type series off *Dasyprocta punctata* and other specimens off *Nasua narica*, Chiriquí, Panamá. Other records: Brennan and Jones (1960) redescribed *T. dunni*, designated a lectotype, and identified 3 larvae off *Cuniculus paca*, Trinidad; 1 off *Oryzomys keaysi*, Peru (Brennan and Jones, 1961a); about 900 from 165 collections of a large variety of mammals and birds, Panamá (Brennan and Yunker, 1966); 45 from 27 lots of *Oryzomys albigularis*, *O. alfaroi*, *O. caliginosus*, *Heteromys australis*, and *Thomasomys fuscatus*, Colombia (Brennan, 1968a); 5 off *Philander opossum* and 1 off *Proechimys* sp., Rondônia, Brazil (Brennan, 1970b). Also described as: *Trombicula canis* Floch and Abonnenc, 1941, off dog and man, French Guiana; *T. landazuri* Boshell and Kerr, 1942, off *Proechimys chrisaeolus*, *Cuniculus paca*, and man, Colombia; *T. agutii* Floch and Fauran, 1957, off *Dasyprocta aguti*, French Guiana; *T. paragoga* Brennan and Jones, 1960, off *Nectomys squamipes* and *Echimyus armatus*, Trinidad.

This neotropical species, very common on a variety of mammals and some birds, was regarded by Brennan and Yunker (1966) and Brennan (1968a) as polymorphic, with easily distinguishable forms, but occasionally showing intergradation in large series. Probably this taxon should be regarded as a species complex.

**Trombicula* sensu lato *macrozota* Brennan and Jones

Trombicula macrozota Brennan and Jones, 1960, p. 518.

Two larvae off *Mormoops megalophylla*, Yaracuy, 20 km NW San Felipe (Minas de Aroa), 395 m, 13 Dec 1967; 18 off 2 *M. megalophylla*, Sucre, 10 km NE Güiría (Ensenada Cuarenta), 90 m, 7 Jun 1967.

Described from numerous larvae off 2 *Mormoops megalophylla*, Trinidad. An additional record is 2 off *M. megalophylla*, Colombia, Santander, Macaregua San Gil, 18 Apr 1967, Dr. C. J. Marinkelle.

**Trombicula* sensu lato *monops* Brennan and Jones

Trombicula monops Brennan and Jones, 1960, p. 524.

One larva off *Pteronotus suapurensis*, Yaracuy, 20 km NW San Felipe (Minas de Aroa), 395 m, 12 Dec 1967.

Described from 20 specimens off 2 *Mormoops megalophylla*, Trinidad. Later recorded by Brennan and Yunker (1966) from Panamá off *Myotis nigricans*, *Pteronotus psilotis*, and unidentified bat. A new record is 1 off *Mormoops megalophylla*, Colombia, Santander, Macaregua, 8 Aug 1967, Dr. C. J. Marinkelle.

Trombicula sensu lato sp. A

One larva off *Oryzomys albigularis*, Miranda, 5 km NNE Caracas (Pico Avila), 2124 m, 28 Aug 1965; 1 off *O. albigularis* and 8 off 2 *Thomasomys lugens*, Trujillo, 14 km E Trujillo (Hacienda Misisi), 2210-2215 m, 26-29 Jan 1966; 9 off *O. minutus*, Mérida, 7 km SE Tabay (nr. La Coromoto), 3150 m, 22 Mar 1966; 10 off *Thomasomys* sp., 2 off *O. albigularis*, and 22 off 3 *T. lugens*, Mérida, 6-7 km ESE Tabay (nr. Middle Refugio), 2570-2600 m, 10-24 Apr 1966; 1 off *Vampyrops aurarius* Bolívar, 85 km SSE El Dorado (KM 125), 1032 m, 16 May 1966.

Trombicula sensu lato sp. B

Seventeen larvae off 2 *Sigmodon hispidus*, Carabobo, Montalbán (Potrerito and Sanjón), 598 m, 7 Mar 1967; 10 off 6 *S. hispidus*, Lara, 10 km N El Tocuyo (Caserio Boro), 537-900 m, 17-19 Jul 1967.

Trombicula sensu lato sp. F

One larva off *Heteromys anomalus*, Guárico, 15 km NW Altigracia (Guatopo National Park), 650 m, 1 Oct 1966; 2 off *Didelphis marsupialis* and 3 off *Mazama gouazoubira*, Bolívar, 20 km W La Paragua (Hato San Jose), 324-330 m, 16-19 Mar 1967; 1 off *D. marsupialis*, Miranda, 3 km NE Caracas (Quebrada Chacaito), 1150 m, 15 May 1967; 12 off 3 *Proechimys semispinosus*, Barinas, Altamira, 25 Dec 1967 to 11 Jan 1968; 12 off 6 *Proechimys semispinosus* and 1 off *Echimys armatus*, Apure, 29 km SSW Santo Domingo (Nulita), 24 m, 24 Jan to 5 Feb 1968.

HOST-PARASITE LIST

Class AMPHIBIA

Frog

Eutrombicula goeldii

Class REPTILIA

Lizard

Eutrombicula alfreddugesi
Eutrombicula batatas
Eutrombicula goeldii
Eutrombicula tropica
Odontacarus australis
Parasecia sp. H

Class AVES

Bird

Blankaartia sinnamaryi
Eutrombicula batatas
Eutrombicula goeldii
Eutrombicula webbii
Hooperella vesperuginis
Loomisia desmodus
Microtrombicula fragibarba
Microtrombicula sp. D
Neoschoengastia americana
Odontacarus comosus comosus
Parasecia manucli
Parasecia psittaci

Owl

Blankaartia sinnamaryi
Neoschoengastia americana

Class MAMMALIA

Order MARSUPIALIA

Family Caenolestidae

Caenolestes obscurus
Crotiscus sp. A
Peltoculus bobbianna

Family Didelphidae

Caluromys philander
Eutrombicula goeldii
Didelphis azarae
Crotiscus sp. A
Eutrombicula goeldii
Eutrombicula neotropicalis
Eutrombicula tanychaeta
Eutrombicula vacillata
Eutrombicula wolfenbargerii
Didelphis marsupialis
Colicus johnsoni
Eutrombicula batatas
Eutrombicula goeldii
Microtrombicula fragibarba
Odontacarus tubercularis
Odontacarus sunninae
Quadrasetta sp. C
Trombicula (s.l.) sp. F
Lutreolina crassicaudata
Eutrombicula batatas
Eutrombicula sp. P
Marmosa cinerea
Eutrombicula alfreddugesi
Eutrombicula goeldii

Marmosa dryas
Crotiscus sp. A
Eutrombicula cricetivora
Eutrombicula lcegoffi
Eutrombicula tachirac
Odontacarus comosus comosus
Marmosa fuscata
Crotiscus desdentatus
Eutrombicula alfreddugesi
Eutrombicula batatas
Eutrombicula cricetivora
Eutrombicula goeldii
Eutrombicula lcegoffi
Eutrombicula marmosa
Eutrombicula pacae
Eutrombicula sipi
Hoffmannina reedi
Marmosa fuscata
Odontacarus tubercularis
Odontacarus sunnianaee
Odontacarus comosus comosus
Trombicula (s.l.) dunni
Marmosa impavida
Crotiscus sp. A
Eutrombicula lukoschusi
Odontacarus comosus comosus
Marmosa murina
Eutrombicula goeldii
Marmosa robinsoni
Atelepalmee sp. A
Crotiscus sp. A
Eutrombicula alfreddugesi
Eutrombicula batatas
Eutrombicula goeldii
Eutrombicula pacae
Eutrombicula tinami
Eutrombicula tropica
Hooperella vesperuginis
Microtrombicula fragibarba
Microtrombicula tragulata
Nasicola annereauxi
Odontacarus cayolargoensis
Odontacarus tubercularis
Parasecia aitkeni
Quadrasetta antillarum
Quadrasetta flochi
Quadrasetta sp. C
Quadrasetta sp. D
Genus A sp. A
Marmosa sp. A
Eutrombicula goeldii
Odontacarus (O.) tubercularis
Marmosa sp.
Eutrombicula batatas
Eutrombicula webbi
Odontacarus tubercularis
Parasecia aitkeni
Metachirus nudicaudatus
Eutrombicula goeldii
Eutrombicula tropica
Monodelphis brevicaudata
Coliclus colombiae
Coliclus sp. B
Eutrombicula batatas
Eutrombicula goeldii
Kymoeta jaitkeni
Odontacarus tubercularis
Quadrasetta flochi
Quadrasetta sp. C
Speleocola secunda

Vanidicus chalepus
Philander opossum
Crotiscus desdentatus
Eutrombicula alfreddugesi
Eutrombicula goeldii
Eutrombicula tropica
Parasecia manueli
Trombicula (s.l.) dunni

Order INSECTIVORA

Family Soricidae

Cryptotis thomasi
Crotiscus sp. A
Eutrombicula goeldii
Eutrombicula variabilis
Eutrombicula wolffenbergeri
Hoffmannina sp. A
Odontacarus dienteslargus
Peltoculus bobbiannac

Order CHIROPTERA

Family Desmodiidae

Desmodus rotundus
Beamerella acutascuta
Hooperella saccopteryx
Hooperella vesperuginis
Loomisia desmodus
Microtrombicula boneti
Nycterinastes primus
Perissopalla precaria
Speleocola secunda
Whartonia nudosetosa
Euschoengastia (s.l.) megastyrax
Diphylia ecaudata
Whartonia angulascuta

Family Emballonuridae

Cornura brevitrostris
Hooperella saccopteryx
Loomisia yunkerii
Peropteryx kappleri
Hooperella saccopteryx
Hooperella vesperuginis
Loomisia bulbocalcar
Loomisia desmodus
Perissopalla precaria
Perissopalla tanycera
Perissopalla sp. A
Perissopalla sp. B
Speleocola sp. A
Whartonia nudosetosa
Peropteryx macrotis
Hooperella saccopteryx
Loomisia bulbocalcar
Loomisia desmodus
Loomisia yunkerii
Perissopalla precaria
Perissopalla tanycera
Perissopalla sp. A
Speleocola secunda
Whartonia guerrerensis
Peropteryx trinitatis
Loomisia yunkerii
Perissopalla tanycera
Rhynchonycteris naso
Eutrombicula variabilis

Saccopteryx bilineata
Beamerella acutascuta
Eutrombicula goeldii
Hooperella saccopteryx
Hooperella vesperuginis
Loomisia desmodus
Odontacarus tubercularis
Parasecia aitkeni
Parasecia longicalcar
Saccopteryx leptura
Hooperella saccopteryx
Saccopteryx sp.
Hooperella saccopteryx

Family Molossidae

Molossops parvus
Eutrombicula alfreddugesi
Molossops planirostris
Nasicola annercauxi
Molossus ater
Beamerella acutascuta
Hooperella saccopteryx
Hooperella vesperuginis
Parasecia sp. A
Molossus aztecus
Beamerella sp. A
Speleocola secunda
Molossus molossus
Eutrombicula goeldii
Molossus sinaloae
Beamerella sp. A
Neoplatymops mattogrossensis
Hoffmannina sp. A
Microtrombicula sp. C
Parasecia manuehi
Parasecia sp. A
Parasecia sp. I
Promops nasutus
Crotiscus desdentatus
Tadarida gracilis
Chiropetella australis
Eutrombicula tropica
Parasecia sp. A
Parasecia sp. E
Parasecia sp. I

Family Mormoopidae

Mormoops megalophylla
Whartonia guerrerensis
Trombicula (s.l.) *macrozota*
Pteronotus daviji
Wagnaaria similis
Pteronotus parnellii
Hooperella vesperuginis
Microtrombicula boneti
Nycterinastes primus
Pteronotus psilotis
Phalcochila antica
Phalcochila postica
Pteronotus saupurensis
Trombicula (s.l.) *mouops*

Family Noctilionidae

Noctilio labialis
Eutrombicula batatas
Perissopalla precaria
Whartonia nudosetosa

Family Phyllostomidae

Amctrida centurio
Whartonia nudosetosa
Anoura caudifera
Microtrombicula boneti
Whartonia nudosetosa
Anoura geoffroyi
Nycterinastes primus
Nycterinastes secundus
Perissopalla sp. F
Whartonia nudosetosa
Anoura sp. A
Nycterinastes primus
Perissopalla precaria
Whartonia nudosetosa
Anoura sp.
Loomisia desmodus
Artibeus cinereus
Eutrombicula goeldii
Artibeus harti
Microtrombicula carmenae
Parasecia sp. C
Artibeus jamaicensis
Beamerella acutascuta
Eutrombicula webbi
Hooperella vesperuginis
Microtrombicula carmenae
Microtrombicula sp. A
Odontacarus shoenesetosus
Speleocola secunda
Whartonia nudosetosa
Artibeus lituratus
Parasecia aitkeni
Perissopalla precaria
Quadrasetta sp. C
Carollia brevicauda
Eutrombicula goeldii
Eutrombicula pacae
Hooperella saccopteryx
Hooperella vesperuginis
Loomisia alcithoae
Loomisia desmodus
Odontacarus tubercularis
Perissopalla precaria
Perissopalla sp. A
Perissopalla sp. B
Whartonia nudosetosa
Whartonia angulascuta
Carollia perspicillata
Beamerella acutascuta
Boshkerria punctata
Hooperella vesperuginis
Loomisia alcithoae
Loomisia desmodus
Loomisia yunkerii
Microtrombicula boneti
Microtrombicula carmenae
Microtrombicula sp. C
Nycterinastes primus
Parasecia manuehi
Perissopalla precaria
Perissopalla sp. A
Perissopalla sp. E
Perissopalla sp. F
Perissopalla sp. A
Whartonia nudosetosa
Whartonia angulascuta
Euschoengastia (s.l.) *megastyra*

Chiroderma trinitatum
Perissopalla tanygera
Chiroderma villosum
Hooperella vesperuginis
Whartonia nudosetosa
Chrototerpis auritus
Hooperella vesperuginis
Loomisia desmodus
Whartonia nudosetosa
Whartonia angulascuta
Glossophaga longirostris
Eutrombicula goeldii
Hooperella vesperuginis
Loomisia desmodus
Loomisia yunkerii
Perissopalla precaria
Whartonia nudosetosa
Glossophaga soricina
Hooperella vesperuginis
Loomisia desmodus
Nycterinastes primus
Perissopalla precaria
Perissopalla sp. D
Whartonia nudosetosa
Glossophaga sp.
Hooperella vesperuginis
Leptonycteris curosoae
Apolonia tigipioensis
Perissopalla precaria
Lionycteris spurrelli
Hooperella vesperuginis
Nycterinastes primus
Whartonia nudosetosa
Lonchophylla robusta
Loomisia desmodus
Parasecia sp. D
Lonchorhina aurita
Nycterinastes primus
Odontacarus schoenesetosus
Odontacarus vergrandi
Macrophyllum macrophyllum
Eutrombicula variabilis
Micronycteris hirsuta
Hooperella vesperuginis
Micronycteris megalotis
Beamerella acutascuta
Eutrombicula batatas
Hooperella vesperuginis
Loomisia desmodus
Micronycteris microtis
Hooperella vesperuginis
Odontacarus tubercularis
Perissopalla precaria
Micronycteris nicefori
Hooperella vesperuginis
Mimon crenulatum
Beamerella acutascuta
Hooperella saccopertyx
Parasecia manucli
Phylloderma stenops
Hooperella vesperuginis
Phyllostomus discolor
Beamerella acutascuta
Eutrombicula goeldii
Hooperella vesperuginis
Microtrombicula carmenae
Perissopalla precaria
Euschoengastia (s.l.) *megastyrax*
Phyllostomus elongatus
Hooperella vesperuginis

Phyllostomus hastatus
Eutrombicula goeldii
Hooperella vesperuginis
Nasicola annerauxi
Spelcocola secunda
Sturnira erythromus
Hooperella vesperuginis
Parasecia sp. F
Parasecia sp. G
Sturnira lilium
Eutrombicula goeldii
Loomisia desmodus
Microtrombicula carmenae
Perissopalla precaria
Perissopalla sp. A
Whartonia nudosetosa
Sturnira ludovici
Microtrombicula carmenae
Sturnira tildae
Hooperella vesperuginis
Trachops cirrhosus
Beamerella acutascuta
Hooperella vesperuginis
Loomisia desmodus
Euschoengastia (s.l.) *megastyrax*
Vampyressa pusilla
Crotiscus desdentatus
Loomisia desmodus
Odontacarus tubercularis
Vampyrops aurarius
Trombicula (s.l.) sp. A
Whartonia nudosetosa
Vampyrops helleri
Crotiscus desdentatus
Eutrombicula nachchatrami
Odontacarus tubercularis

Family Vespertilionidae

Eptesicus fuscus
Perissopalla sp. C
Eptesicus montosus
Albeckia albecki
Histiotes sp. A
Albeckia albecki
Parasecia aitkeni
Myotis larensis
Quadrasetta sp. C

Order PRIMATES

Family Cebidae
Callicebus torquatus
Eutrombicula tropica

Order EDENTATA

Family Myrmecophagidae
Cyclopes didactylus
Eutrombicula alfreddugesi
Tamandua longicaudata
Rhinibus tamandua
Tamandua mexicana
Eutrombicula goeldii

Order LAGOMORPHA

Family Leporidae
Sylvilagus brasiliensis
Apolonia tigipioensis
Eutrombicula alfreddugesi

Sylvilagus floridanus
Apolonia tigipioensis
Atelepalme sp. A.
Eutrombicula batatas
Neotrombicula americana
Odontacarus tubercularis
Quadrasetta antillarum

Order RODENTIA

Family Cricetidae

Akodon bogotensis
Crotiscus sp. A
Eutrombicula neotropialis
Eutrombicula tachirae
Odontacarus dienteslargus
Odontacarus tuberculohirsutus
Peltoctolus bobbiannae
Quadrasetta sp. A
Akodon urichi
Colicus sp. A
Eutrombicula goeldii
Kymocta inca
Odontacarus tubercularis
Parasecia manueli
Quadrasetta flochi
Quadrasetta sp. A
Calomys hummelincki
Atelepalme sp. A
Chilomys instans
Eutrombicula tachirae
Odontacarus dienteslargus
Daptomys venezuelae
Hoffmannina sp. B
Holochilus brasiliensis
Eutrombicula alfreddugesi
Eutrombicula batatas
Trombicula (s.l.) *dunni*
Neacomys tenuipes
Kymocta inca
Nectomys alfari
Crotiscus desdentatus
Odontacarus tubercularis
Nectomys squamipes
Aitkenius ciscunctatus
Crotiscus desdentatus
Eutrombicula alfreddugesi
Eutrombicula batatas
Eutrombicula goeldii
Eutrombicula tropica
Pseudoschoengastia bulbifera
Schoengastia (s.l.) *guyanensis*
Oryzomys albigularis
Aitkenius senticosus
Colicus pichindensis
Colicus sp. A
Crotiscus desdentatus
Crotiscus sp. A
Eutrombicula cricetivora
Eutrombicula leegoffi
Eutrombicula lukoschusi
Eutrombicula marmosa
Eutrombicula nadchatrami
Eutrombicula neotropicalis
Eutrombicula tachirae
Eutrombicula variabilis
Eutrombicula webbi
Odontacarus comosus comosus
Odontacarus comosus novemsetus

Odontacarus dienteslargus
Odontacarus sunniannae
Odontacarus tiptoni
Odontacarus tubercularis
Odontacarus vanderhammeni
Peltoctolus bobbiannae
Quadrasetta flochi
Quadrasetta sp. A
Quadrasetta sp. C
Vanidicus chalepus
Vanidicus jojosi
Trombicula (s.l.) sp. A
Oryzomys bicolor
Eutrombicula alfreddugesi
Eutrombicula goeldii
Oryzomys capito
Eutrombicula goeldii
Odontacarus tubercularis
Quadrasetta flochi
Quadrasetta sp. A
Oryzomys concolor
Eutrombicula alfreddugesi
Eutrombicula tropica
Odontacarus tubercularis
Trombicula (s.l.) *dunni*
Oryzomys fulvescens
Crotiscus sp. A
Eutrombicula batatas
Eutrombicula goeldii
Odontacarus tubercularis
Quadrasetta sp. A
Oryzomys minutus
Aitkenius senticosus
Crotiscus desdentatus
Crotiscus sp. A
Eutrombicula goeldii
Eutrombicula cricetivora
Eutrombicula goeldii
Eutrombicula jenkeni
Eutrombicula leegoffi
Eutrombicula longiseta
Eutrombicula lukoschusi
Eutrombicula neotropicalis
Eutrombicula tachirae
Eutrombicula venezuelensis
Eutrombicula webbi
Eutrombicula wolffenbargeri
Hoffmannina sp. A
Odontacarus comosus comosus
Odontacarus comosus novemsetus
Odontacarus dienteslargus
Odontacarus tiptoni
Odontacarus tubercularis
Odontacarus tuberculohirsutus
Odontacarus vanderhammeni
Odontacarus vergrandi
Peltoctolus bobbiannae
Quadrasetta sp. A
Trombicula (s.l.) sp. A
Oryzomys sp.
Crotiscus desdentatus
Eutrombicula batatas
Eutrombicula goeldii
Peltoctolus bobbiannae
Quadrasetta sp. A
Rhipidomys coeusi
Eutrombicula goeldii
Rhipidomys fulviventris
Microtrombicula fragibarba

- Speleocola secunda*
Rhipidomys leucodactylus
Parasecia manueli
Rhipidomys macconnelli
Eutrombicula tropica
Hoffmannina sp. B
Kymocta faitkeni
Kymocta inca
Rhipidomys venezuelae
Eutrombicula goeldii
Microtrombicula carmenae
Microtrombicula fragibarba
Parasecia aitkeni
Parasecia longicalcar
Quadrasetta sp. C
Speleocola secunda
Rhipidomys venustus
Crotiscus sp. A
Eutrombicula cricetivora
Eutrombicula leegoffi
Eutrombicula lukoschusi
Eutrombicula webbi
Microtrombicula fragibarba
Odontacarus comosus comosus
Parasecia soucouyanti
Speleocola secunda
Rhipidomys sp.
Eutrombicula pacae
Eutrombicula neotropicalis
Kymocta inca
Rhinibius tamandua
Sigmodon hispidus
Colicus pichindensis
Eutrombicula alfreddugesi
Eutrombicula batatas
Eutrombicula goeldii
Eutrombicula tropica
Intercutestrix exigua
Odontacarus tubercularis
Odontacarus sunniana
Parasecia aitkeni
Pseudoschoengastia bulbifera
Quadrasetta flochi
Trombicula (s.l.) *dunni*
Trombicula (s.l.) sp. B
Sigmomys alstoni
Colicus colombiae
Eutrombicula alfreddugesi
Eutrombicula batatas
Eutrombicula goeldii
Eutrombicula tropica
Hooperella saccopteryx
Kymocta inca
Odontacarus tubercularis
Parasecia aitkeni
Parasecia manueli
Parasecia sp. H
Quadrasetta flochi
Schoengastia (s.l.) *guyanensis*
Trombicula (s.l.) *dunni*
Thomasomys aureus
Peltochulus bobbiannae
Thomasomys hylophilus
Aitkenius senticosus
Crotiscus sp. A
Eutrombicula goeldii
Eutrombicula lukoschusi
Eutrombicula tachirae
Eutrombicula webbi
Odontacarus tubercularis
Odontacarus comosus comosus
Odontacarus dienteslargus
Peltochulus bobbiannae
Quadrasetta sp. A
Thomasomys laniger
Eutrombicula cricetivora
Eutrombicula goeldii
Eutrombicula jenkinsi
Eutrombicula venezuelensis
Eutrombicula webbi
Eutrombicula wolfenbangeri
Hoffmannina reedi
Hoffmannina sp. A
Odontacarus dienteslargus
Odontacarus schoenesetosus
Odontacarus pugnatus
Odontacarus tuberculohirsutus
Odontacarus vergrandi
Thomasomys lugens
Crotiscus desdentatus
Eutrombicula goeldii
Eutrombicula jenkinsi
Eutrombicula leegoffi
Eutrombicula longiseta
Eutrombicula neotropicalis
Eutrombicula variabilis
Eutrombicula webbi
Hoffmannina reedi
Odontacarus tubercularis
Odontacarus comosus novemsetus
Odontacarus tiptoni
Odontacarus vanderhammeni
Trombicula (s.l.) sp. A
Thomasomys vestitus
Odontacarus schoenesetosus
Odontacarus tiptoni
Thomasomys sp.
Hoffmannina sp. A
Peltochulus bobbiannae
Trombicula (s.l.) sp. A
Zygodontomys brevicauda
Aitkenius ciscunctatus
Atelepalme smarma
Boshkerria punctata
Crotiscus desdentatus
Eutrombicula alfreddugesi
Eutrombicula batatas
Eutrombicula goeldii
Eutrombicula tropica
Neoschoengastia americana
Odontacarus tubercularis
Parasecia longicalcar
Parasecia manueli
Quadrasetta antillarum
Quadrasetta flochi
Quadrasetta sp. C

Family Dasyproctidae

- Agouti paca*
Boshkerria punctata
Eutrombicula alfreddugesi
Eutrombicula goeldii
Eutrombicula pacae
Odontacarus tubercularis
Parasecia aitkeni
Parasecia manueli
Trombicula (s.l.) *dunni*

Dasyprocta aguti
Eutrombicula alfreddugesi
Eutrombicula goeldii
Eutrombicula tinami
Odontacarus tubercularis

Dasyprocta fuliginosa
Colicus sp. B
Eutrombicula goeldii

Dasyprocta variegata
Eutrombicula goeldii
Parasecia aitkeni

Dasyprocta sp.
Eutrombicula goeldii
Eutrombicula pacae
Hoffmannina sp. A
Odontacarus tubercularis

Myoprocta pratti
Eutrombicula alfreddugesi
Eutrombicula goeldii

Family Echimyidae

Echimys armatus
Colicus johnsoni
Crotiscus desdentatus
Eutrombicula alfreddugesi
Eutrombicula spipi
Eutrombicula tropica
Hooperella vesperuginis
Parasecia aitkeni
Parasecia manucli
Trombicula (s.l.) sp. F

Echimys semicilliosus
Eutrombicula batatas
Parasecia aitkeni
Quadrasetta sp. C

Proechimys canicollis
Eutrombicula goeldii

Proechimys guyanensis
Arisocerus amapensis
Boshkerria punctata
Buclypeus daptops
Colicus sp. C
Eutrombicula alfreddugesi
Eutrombicula goeldii
Eutrombicula tinami
Eutrombicula tropica
Hooperella saccopteryx
Intercutestrix mondolfii
Intercutestrix pinima
Parasecia manucli
Perissopalla precaria
Polyopadium chactolecanium
Quadrasetta sp. C
Vanidicus jojosti

Proechimys semispinosus
Aitkenius ciscunctatus
Aitkenius hystricosus
Boshkerria punctata
Buclypeus daptops
Crotiscus desdentatus
Eutrombicula alfreddugesi
Eutrombicula batatas
Eutrombicula goeldii
Eutrombicula pacae
Eutrombicula tinami
Eutrombicula tropica
Eutrombicula neotropicalis
Intercutestrix exigua

Odontacarus cayolargoensis
Odontacarus tubercularis
Odontacarus sumnianaec
Parasecia aitkeni
Parasecia longicalcar
Parasecia manucli
Parasecia sp. A
Parasecia sp. C
Pseudoschoengastia bulbifera
Quadrasetta flochi
Quadrasetta sp. B
Quadrasetta sp. C
Trombicula (s.l.) *dunni*
Trombicula (s.l.) sp. F

Proechimys sp.
Odontacarus sumnianaec
Polyopadium aspasium
Polyopadium tricholecanium

Family Heteromyidae

Heteromys anomalus
Anomalaspis ambigua
Boshkerria punctata
Crotiscus desdentatus
Crotiscus sp. A
Eutrombicula goeldii
Kymoceta zulia
Odontacarus comosus novemsetus
Odontacarus tubercularis
Parasecia manucli
Polyopadium chactolecanium
Pseudoschoengastia bulbifera
Quadrasetta flochi
Quadrasetta sp. C
Vanidicus chalepus
Vanidicus jojosti
Trombicula (s.l.) sp. F

Heteromys sp. A
Eutrombicula goeldii
Parasecia aitkeni

Family Hydrochaeridae

Hydrochaeris hydrochaeris
Blankaartia sinnamaryi

Family Muridae

Mus musculus
Apolonia tigipioensis
Rattus norvegicus
Eutrombicula nachtrami
Odontacarus tubercularis
Rattus rattus
Crotiscus desdentatus
Eutrombicula batatas
Eutrombicula goeldii
Hooperella saccopteryx
Microtrombicula tragulata
Microtrombicula sp. B
Odontacarus tubercularis
Speleocola secunda

Family Sciuridae

Sciurus aestuans
Crotiscus desdentatus
Sciurus granatensis
Crotiscus desdentatus

Crotiscus sp. A
Eutrombicula goeldii
Eutrombicula tropica
Odontacarus sunniana
Odontacarus tubercularis
Sciurus sp.
Trombicula (s.l.) *dunni*

Order CARNIVORA

Family Procyonidae
Potos flavus
Microtrombicula tragulata
Microtrombicula sp. B

Order PERISSODACTYLA

Family Tapiridae
Tapirus terrestris
Eutrombicula goeldii

Order ARTIODACTYLA

Family Cervidae
Mazama americana
Eutrombicula goeldii
Odontacarus tubercularis
Mazama gouazoubira
Eutrombicula goeldii
Trombicula (s.l.) sp. F

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